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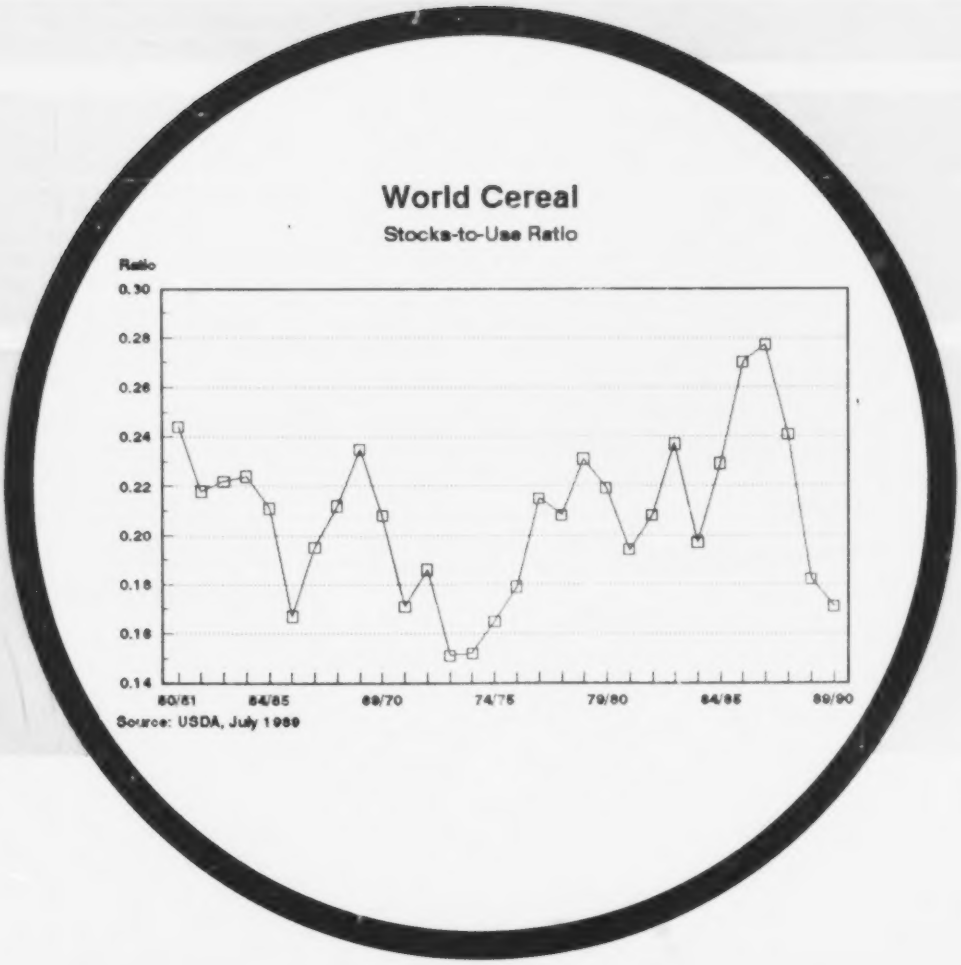

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Foreword

This is the first of two reports to be published in the *World Food Needs and Availabilities* series for 1989/90. Complete updates have been done on 22 food-deficit countries. Updates on the remaining 33 countries will be published in the November issue. Estimates of 1989/90 and 1990/91 food needs are based on analysis through July 1989.

World Food Needs and Availabilities serves both the requirement of P.L. 480, as amended, that "global assessments of food production and needs" be submitted to the Congress, and the food needs analysis function of the Interagency Food Aid Analysis Working Group. Information provided through these reports to the Executive Branch and the Congress is employed, along with other information, in considering fiscal 1990 and 1991 food aid budget allocations. The reports provide detailed updates on food supplies and additional food needs country by country and in aggregate. This information is also useful to program and policy officials within donor governments and food-aid recipient countries, analysts in international organizations and universities, and private agencies involved in food aid distribution.

This report presents two alternative measures of the overall food import requirements and the additional food needs of each country for 1989/90 and 1990/91. The *status quo* and *nutrition-based* assessments are based on two different sets of normative judgments and assumptions regarding the role of additional food and the considerations that might govern its use. For a detailed explanation of the two measures, see "Measures of Additional Food Feeds--Conceptual Framework" on page 19.

The most current weather, crop production, and financial data were employed in making 1989/90 assessments. The 1990/91 assessments are based on projected agricultural production, trade, and general economic trends evident when each country analysis is done. Estimates of 1991 U.S. export unit values are those available in July 1989. Estimates of commercial food import capacity are based on historical and projected foreign exchange availability, assuming continuation of recent debt payments. The share of this exchange allocated to imports is determined by the average value of commercial food imports in the past 3 years. Significant changes in debt payment performance would alter food import capacity and additional food needs.

Neither the status quo nor the nutrition-based measure deals specifically with the ability of countries' infrastructure to absorb food aid without overloading port and transportation capacity and storage and distribution systems. Food import absorption problems sometimes limit the quantity of assistance that can physically be provided. The gap between maximum absorbable and nutrition-based food needs is one measure of the seriousness of a country's food problem. In a very real sense, this measure captures the magnitude of the task of achieving the financial and physical capacity to import food, or increasing domestic food production consistent with national food demand.

The import requirements and additional food need estimates in *World Food Needs and Availabilities* reports are based on national agricultural and economic data. These estimates assist financial and logistics planning by both donor and food-aid recipient countries. It should be apparent, however, that additional food need levels are only a part of the calculus, and that delivering imported food to communities deprived by national food production shortfalls or civil disturbances is a major undertaking. Factors bearing on success include local transportation and communications infrastructure, the financial status of both local and national public service agencies, and the availability of international financial support.

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The Economic Research Service economists providing analysis for the report were Richard Brown, Catherine McKinnell, Margaret Missiaen, Stacey Rosen, Pat Scheid, Mark Smith, and Frederic Surls.

Dee Linse reviewed the report for the Foreign Agricultural Service, USDA.

Abstract

Despite large gains in agricultural production in food deficit countries, global food aid needs are 15.4 million tons. Poor export earnings and continued debt service are limiting the ability of developing countries to pay for food imports at the same time that food prices are rising on world markets.

Although this year's global wheat crop is up, world consumption still exceeds production and ending stocks are projected to be slightly lower than last year. Projections call for prices to rise modestly from the 1988/89 average.

Summary

Favorable weather in food deficit countries has brought large gains in agricultural production; however, global food aid needs remain high. Estimated 1989/90 needs of 15.4 million tons are down from the 17.1 million of 1988/89 and the record 19.5 million tons of 1987/88, but about 2 million greater than at the height of the African famine in 1984/85. The factors maintaining large food aid needs differ among developing countries. But in general, poor export earnings and continued debt service are limiting the ability of developing countries to pay for food imports at the same time that food prices are rising on world markets. Prices of wheat are up in 1988/89 and 1989/90 because exporter stocks have tightened and are at an exceptionally low level.

Better weather and larger area will mean a record 1989 wheat crop for the major foreign exporters. In the United States, however, unfavorable weather damaged the winter wheat crop and total wheat production may increase only 13 percent despite a 17-percent rise in planted area. The combined increase in total exporter wheat production is nearly balanced by lower beginning stocks, so total exporter supplies show little change from last year.

Although this year's global wheat crop is up, world consumption still exceeds production and ending stocks are projected to be slightly lower than last year. Projections call for prices to rise modestly from the 1988/89 average.

The drop in stocks and tighter supply demand balance have brought prices back to the average for the early 1980's. The low prices of 1986/87 and 1987/88 were the temporary result of large stocks and aggressive export competition.

The Food and Agriculture Organization (FAO) estimates that world cereal aid shipment in the July 1988-June 1989 trade year fell below 9.8 million tons, the lowest level since 1983/84. This was more than a 25-percent decline from the 1987/88 level, and the sharpest year-to-year decline since 1973/74. However, aid shipments were still well above the early 1980's. If this estimate proves true, 1988/89 was the first time in 4 years that cereal aid shipments fell below the 1974 World Food Conference target of 10 million tons. Given continuing tight world supplies, cereal aid shipments will likely decline again in 1989/90.

World Food Situation and Outlook

World food production was unchanged in 1988 for the third consecutive year as greater production of livestock products, pulses, and a variety of other commodities offset smaller crops of cereals and oilseeds. Global per capita output was 4 percent below the peak reached in 1985 and 1986. Smaller North American crops were the largest factor in this drop. With grain consumption exceeding production for the third consecutive year, world food stocks are down dramatically from the record of several years ago, and prices are up. Food production in 1989/90 is forecast to increase as acreage rises and yields recover. But wheat and rice supplies will be tight and prices are likely to rise. Prices of coarse grains and oilseeds should drop, however.

North American Developments Dominate 1988/89

The North American drought was the major reason why world food production did not increase in 1988 (indices table). Canadian food production was decimated. U.S. food output dropped 8 percent and was 16 percent below the peak of 1985; acreage reduction programs also contributed to the decline. Although North America was the major area hit by severe weather, drought also sharply cut Argentina's coarse grain and soybean crops.[1]

Output in the centrally planned economies did not increase. In other regions, however, weather was generally good and production gained, setting records in a number of cases. Asia, and particularly India, showed a strong recovery from 1987/88, when a poor monsoon cut output sharply.

Generally good crops in importing countries and large world carryin stocks of grains and oilseeds limited the price increases caused by smaller exporter crops. By the end of the year, however, world stocks were down sharply.

Production Recovering in 1989/90

Early prospects are for a substantial gain in food output in 1989/90. Weather in North America has been much better than last year, and more area was planted to crops. To date, weather elsewhere in the world has been good and foreign production should continue to gain. USDA is projecting an 8-percent increase in world cereal production. But record cereal consumption will again exceed production, and ending stocks will decline further. Prices of wheat and rice, the grains in tightest supply, will rise.

World oilseed production will rise sharply as soybeans in the United States and Argentina recover from drought. Record palm oil and soybean production, together with gains in peanuts and sunflowerseed, will mean larger world vegetable oil production. World consumption will be a record, limiting stock building, and prices are likely to show little change from last year.

Cereal Situation and Outlook

World grain production in 1989/90 may increase 8 percent from 1988/89, after 2 years of decline. However, beginning stocks are very low and supplies will remain tight. USDA projection indicates global use will again exceed production, reducing stocks further. The world stock situation has changed dramatically since 1986/87, when ending stocks reached a record 459 million tons, 28 percent of use for that year. Given current projections, stocks at the end of 1989/90 will be only 17 percent of total use, the lowest level since 1974/75.

World grain production peaked at 1.68 billion tons in 1986/87, dropped to 1.55 billion in 1988/89, and is expected to recover to 1.67 billion in 1989/90. The combination of U.S. acreage reduction and the 1988 drought cut U.S. production 35 percent between 1986/87 and 1988/89. Over this period, U.S. consumption dropped 14 percent and ending stocks 60 percent. At the same time, low world prices discouraged wheat and coarse grain plantings in other exporting countries. In 1989/90, 70 percent of the forecast gain in world production is coming from the United States as acreage expands and yields recover.

The overall 1989/90 picture obscures substantial differences among individual grains. For wheat, exporter stocks are dropping further and prices are likely to rise. In the case of rice, world demand remains strong and prices are not likely to decline significantly. For coarse grains, however, stocks are adequate, although they may drop slightly again this year. The large recovery in

1 Argentina's drought-affected crop was harvested in the spring of 1989. This crop is counted in the 1988/89 marketing year, but is not included in the FAO index for 1988.

U.S. production means coarse grain prices are falling, and will be much lower relative to wheat this year.

The Wheat Situation

Very low world stocks are the dominant feature of the 1989/90 wheat market. Drought cut 1988 U.S. production 14 percent and devastated Canada's crop, which fell 40 percent. Drought also contributed to the smallest Argentine crop since 1980. With production in all exporters except Australia and the EC down, stocks fell sharply, and the ratio of ending stocks to use reached the lowest level in the last 30 years. With large stocks and a good crop, the EC was able to export a record amount of wheat, boosting its market share to 21 percent.

Higher prices and limited supplies reduced world wheat trade 6 percent. The Soviet Union made most of the adjustment for the year, cutting imports sharply as wheat production improved. Also, some of the wheat the USSR normally imports is used for feed, and corn was cheaper and more abundant in the world market. Korea also cut purchases of wheat for livestock feed. Good crops in other areas of the world also restrained import demand, although purchases by India and Pakistan were unusually large following the drought in the previous year.

With carryover stocks extremely low, 1989/90 prices will depend critically on importer demand developments and exporter production. On the exporter side, the area that Canada and Argentina will harvest is rebounding from the drought. Higher prices are also contributing to acreage gains in those countries and in Australia. EC plantings were larger because internal prices favored wheat over barley and rapeseed. With yields also gaining sharply in Canada and Argentina, foreign exporters are increasing production by 14 percent. In the United States, however, dry weather damaged the winter wheat crop and production is only expected to increase 13 percent despite a 17-percent rise in planted area. Total U.S. supply will be smaller lower than last year because of the low level of carryover stocks. Supplies of hard red winter wheat are lower this year, although more of most other classes will probably be available.

This year's increase in total exporter production is nearly balanced by lower beginning stocks, so total exporter supplies show little change from last year. Foreign exporters will pick up a significantly larger share of the world market this year. U.S. exports will be down because of smaller availability.

Importer demand for wheat in 1989/90 is projected to be largely unchanged. Weather so far in most of the world has been good, and total foreign production of wheat is may be a record, up 5.5 percent. Good crops are expected in most of the major importers. Like last year, the USSR is expected to make much of the adjustment to high prices and tight supplies in world markets. The Soviet wheat crop is forecast at the best level in the last 3 years, corn prices are down, and wheat imports may fall to the lowest level in the last decade. Projections call for prices to rise modestly from the 1988/89 average. However, importer stocks have also fallen somewhat, and there is very little cushion in the world to absorb a production shortfall in a major trading country. If one occurs, prices could increase sharply.

Although this year's crop is up, world consumption still exceeds production and ending stocks will be slightly lower than last year. In 1990/91, supplies should increase, assuming no serious weather problems. U.S. planted area will increase because program participants must idle only 5 percent of their wheat base, compared to 10 percent this year and 27.5 percent last year. Yields may also be up, leading to a substantial increase in the U.S. crop. Two years of stronger prices should boost foreign exporter plantings and production. These gains should be sufficient to allow exporters to begin rebuilding world wheat stocks from their current low level.

Rice

World rice production has shown little growth over the last 5 years, and stocks have trended down. The USDA forecast for 1989/90 shows record world production, but stocks are dropping slightly because consumption again exceeds production. The world rice market is still working through the effects of the South and Southeast Asian drought of 1987/88. The poor monsoon cut grain production in that region; and consumption levels were maintained in most countries by trimming use, drawing down stocks, and importing. World stocks dropped 16 percent during 1987/88. Since the drought hit a number of exporters, supplies fell, price prices rose sharply, and the volume of world trade fell. A few countries, such as India, increased imports, but many others trimmed their purchases.

In 1988/89, rice production recovered, reaching a record 324 million tons (milled weight). But with consumption also increasing, there was only minor stock building. World rice trade in calendar 1989 is a record 13.4 million tons. India and

Indonesia are both importing to rebuild depleted government stocks. China is providing the major surprise in the market. Exports are down sharply, imports are at the highest level since the 1970's, and the country is becoming a net importer for the first time in modern history. China's rice production has failed to match the 1984/85 peak.

Exporter production (excluding China) increased modestly in 1988/89. Thailand is meeting most of the increase in world demand with record exports -- an estimated 5.5 million tons of rice, accounting for more than 40 percent of total world trade. U.S. exports are also up for the year. The large Thai exports mean their stocks are remaining near the record low of 1987/88. Low exporter stocks and continued strong demand mean that world prices during 1988/89 may exceed those of 1987/88.

A record world rice crop is forecast for 1989/90. Near-record crops in China and India, which account for 57 percent of world production, are likely. Larger crops are also expected in Indonesia and the Philippines. But world consumption will about equal production and there will be very little gain in stocks. Prices on world markets will match or exceed this year.

Despite the record crop and relatively high prices, the first forecasts of world trade for calendar 1990 indicate only a modest drop, largely due to expected lower imports by India, Indonesia, and China. A larger crop this year may mean that China's exports partially recover and imports drop. The country may still be a net importer, however.

The world will enter 1990/91 with low rice stocks. If there are production gains similar to the one now expected for 1989/90, some stock accumulation would be likely. As with wheat, the world has only small reserves available for dealing with a major production shortfall.

Coarse Grains

The world coarse grain situation differs significantly from that for wheat and rice. Coarse grain production and stocks fell sharply in 1988/89, and prices increased. But supplies remain ample, and prices are likely to fall in 1989/90.

Developments in the United States dominate the 1989/90 coarse grain situation. The 1988 drought had a devastating impact on production, which dropped more than 30 percent for the year. The decline was so sharp that production was less than domestic use for only the second time in the last 30 years. Nevertheless, the United States was able to meet demand and increase exports 19 percent through a 47-percent drawdown in stocks. Since stocks had been a record, the U.S. ratio of stocks to use stayed in line with the historical average.

The U.S. drought was the main reason for the 8-percent drop in 1988/89 world production. But drought also cut production in Canada and Argentina. World trade in coarse grains is projected up 17 percent for the year to 97 million tons, the highest level since 1984/85. A sharp rise in Soviet imports accounted for almost all of this gain. The Soviets increased total imports for feeding, and shifted much of their purchases from wheat to corn. With supplies down in Argentina and Canada, U.S. corn and EC barley met most of the increase in world demand.

World production in 1989/90 will be up sharply, largely because of recovery of the U.S. crop. But with record world consumption, stocks will still show a small decline. While U.S., Canadian, and Argentinean crops will recover, exporter supplies will be little changed from this year because stocks are so much lower. Supplies remain adequate to meet demand, and with a larger U.S. crop and less concern about the adequacy of supplies, prices are already falling. Season average prices for 1989/90 will be well below those of 1988/89. The unusually large premium for wheat over corn will continue to support world coarse grain trade in 1989/90.

Production, stocks, and prices of coarse grains in 1990/91 will depend in part on U.S. developments over the next several months. Acreage reduction requirements for U.S. program participants will be set by September 30. If ending stock forecasts for 1989/90 remain below 2 billion bushels, no more than a 12.5-percent reduction will be required (10 percent is required for 1989/90). Since yields this year, while improved over last year, are expected to be well below trend, a normal year could mean a very large U.S. crop and some buildup in stocks.

World Vegetable Oil Outlook

Tight Supplies, Lower Exports and Stocks in 1988/89--Oilseed crops in the U.S., Argentina, China, and EC-12 were smaller in 1988/89. The largest vegetable oil production declines occurred in soybean and rapeseed oil. Total vegetable oil exports were slightly lower in 1988/89 as a result of tighter supplies in the major exporting countries, except

Malaysia. World vegetable oil consumption expanded nearly 3 percent, drawing ending stocks down 10 percent. However, stocks remained well above the average for the last 5 years.

World Vegetable Oil Production and Trade to Rise in 1989/90--Total vegetable oil production could expand nearly 5 percent in 1989/90, with major gains in soybean and palm oil. World vegetable oil consumption is expected to continue its long-term growth, rising 3 percent. Ending stocks will be unchanged, although they will build in the major exporters other than Brazil. World trade is forecast to rebound 5 percent after the decline in 1988/89 broke a 4-year upward trend.

Larger World Soybean and Palm Oil Supplies in 1989/90--Recovery of U.S. soybean production and another record Southern Hemisphere crop contribute to an 8-percent increase in 1989/90 world soybean oil production. Brazil's and Argentina's soybean oil production is forecast up nearly 13 percent. This will boost supplies available to world markets since Argentina exports almost 90 percent of its soybean oil production and Brazil exports over 25 percent. These combined exports are projected at a record 2 million tons in 1989/90. Although U.S. soybean oil production may rise 5 percent, exports may fall slightly from the 1988/89 level as domestic consumption increases. EC-12 soybean oil supplies are forecast to expand 9 percent in 1989/90, with exports up less than 3 percent. Exports from Brazil, Argentine and the EC-12 may raise world soybean oil exports 5 percent above last year's drought-reduced level.

World palm oil production is forecast at a record 9.8 million tons in 1989/90 because production in Malaysia and Indonesia may expand 8 percent. Production expanded nearly 85 percent between 1980 and 1988. In Malaysia, output grew as a result of increased yields from improved technology in pollination methods and tree varieties, and increases in area. Indonesia's palm oil production has increased because trees planted in the past 5 years are now reaching maturity. Large palm oil carry-in stocks and record production in 1989/90 will contribute to abundant supplies. Palm oil exports, which represent the largest share of total vegetable oil trade, are projected to increase 8 percent in 1989/90.

Other Oil Prospects Mixed--World sunflowerseed oil production is forecast up in all the major producing countries except the EC-12. Sunflowerseed oil trade could rise slightly in 1989/90, with imports up in Algeria and Egypt. World cottonseed oil production is forecast down 4 percent from last year's record despite an increase in China. Reduced U.S. and USSR production after record output levels last year account for most of the decline. World trade is forecast down 12 percent due to reduced U.S. and Brazilian exports and lower imports in Madagascar, Lebanon, and Egypt.

World rapeseed oil production is forecast down slightly because recovering output in China will be more than offset by reductions in the EC-12 and a return to trend in India. After peaking in 1987/88, rapeseed oil trade has declined largely because of less area in the EC-12 and China. Rapeseed oil trade is forecast 7 percent below last year, the second annual decline after 25 years of growth.

Soybean and Palm Oil Consumption Up in 1989/90--World vegetable oil consumption should continue its uptrend, rising 3 percent in 1989/90. The largest increases are expected in palm and soybean oil, up 10 and 5 percent. Palm oil consumption is projected to expand in Asia and the USSR. World rapeseed, cottonseed, and peanut oil consumption may fall slightly in response to lower production levels.

World Oil Stocks Projected to Recover Slightly in 1889/90--The first 1989/90 USDA estimates show a small increase in world vegetable oil stocks. Brazil's and Argentina's total vegetable oil ending stocks should rise in 1989/90, and soybean oil ending stocks are forecast at a record 2.4 million tons. U.S. total vegetable oil ending stocks expanded annually from 1983/84 until the drought last year. Soybean oil stocks should remain stable as the increase in production is absorbed by recovering consumption levels.

Vegetable Oil Prices Likely to Remain Steady--The early-season price outlook is for little change from 1988/89. Rising soybean and palm oil production will increase supplies, but consumption gains will be large enough to prevent much stock building. Relative prices may shift, however. Palm oil supplies in 1989/90 are forecast at a record level, which may reduce prices. Prices for cottonseed and rapeseed oil could rise because of less output. Soybean and palm oil price competitiveness vis-a-vis the other traded oils should improve in 1989/90.

Total cereals: World production, consumption, net imports, and ending stocks [1]

Region/country[2]	Production	Consumption	Net imports[3]	Ending stocks	Production	Consumption	Net imports[3]	Ending stocks
	1986/87				1987/88			
	Million tons							
Developed Countries	589.1	450.0	(115.0)	269.4	541.5	453.3	(129.5)	228.1
United States	314.0	216.5	(74.9)	203.8	277.3	215.1	(96.6)	169.4
Canada	56.9	25.6	(27.1)	18.5	51.5	28.1	(28.4)	13.5
EC-12	155.0	137.6	(18.3)	31.0	155.1	138.0	(18.8)	29.3
Other Western Europe	16.5	15.8	(0.9)	4.1	14.8	15.0	0.1	4.0
South Africa	10.2	9.3	(1.3)	1.4	11.0	10.0	(0.8)	1.6
Japan	11.8	37.8	26.9	5.9	10.9	38.1	27.7	6.3
Australia	23.4	6.4	(19.1)	4.4	19.8	7.8	(12.7)	3.7
New Zealand	1.2	1.0	(0.3)	0.3	1.0	1.1	(0.0)	0.2
Centrally planned countries	630.3	668.8	37.2	116.5	626.4	677.1	49.2	115.0
Eastern Europe	113.2	112.9	3.0	9.7	104.6	111.9	5.6	7.9
USSR	199.9	219.7	26.7	35.4	198.7	226.0	31.1	39.3
China	297.6	315.2	6.0	71.4	303.7	67.8	11.2	67.8
Developing countries	464.8	530.6	72.2	73.4	438.5	529.3	75.1	57.7
Mexico	19.7	24.4	4.7	1.3	18.6	23.5	4.7	1.2
Central America	4.6	9.2	4.7	0.8	4.5	9.5	4.9	0.8
Brazil	40.0	42.4	3.4	4.5	39.5	39.6	1.4	5.9
Argentina	22.2	12.6	(9.6)	0.8	22.1	11.6	(10.1)	1.3
Paraguay	0.8	0.9	0.1	0.1	1.0	1.1	0.1	0.1
Other South America	11.7	17.1	5.4	2.1	12.5	19.3	6.8	2.1
North Africa	19.5	36.1	17.3	2.4	17.5	35.8	18.4	2.5
Middle East	42.0	62.8	25.3	14.9	39.4	62.8	20.7	12.3
Sub-Saharan Africa	47.3	54.1	6.9	6.2	42.2	52.3	7.4	3.5
India	134.0	132.4	(0.8)	25.5	124.2	134.4	0.3	15.5
Other Asia	142.6	159.5	16.1	14.7	136.4	160.0	21.5	12.6
World total	1,684.2	1,655.0	--	459.2	1,606.4	1,664.9	--	400.8
	1988/89[4]				1989/90[4]			
	Million tons							
Developed Countries	467.1	426.5	(132.7)	136.0	555.1	438.8	(126.4)	125.9
United States	203.9	187.4	(102.4)	83.6	284.6	198.1	(91.5)	78.5
Canada	35.3	23.7	(14.8)	10.2	49.3	24.9	(24.3)	10.3
EC-12	164.7	143.5	(23.4)	27.1	159.6	143.1	(20.6)	22.9
Other Western Europe	15.0	15.0	0.1	4.1	15.5	15.2	(0.7)	3.7
South Africa	15.2	9.6	(5.2)	1.9	12.1	10.0	(2.5)	1.4
Japan	10.5	38.1	27.0	5.7	11.1	38.5	27.3	5.7
Australia	21.7	8.0	(14.1)	3.4	22.0	8.0	(14.2)	3.3
New Zealand	0.9	1.1	0.1	0.1	0.9	1.1	0.0	0.0
Centrally planned countries	610.2	672.9	55.6	108.0	638.4	686.7	48.9	108.6
Eastern Europe	106.2	111.7	3.7	6.1	110.4	113.3	4.4	7.6
USSR	183.8	223.5	38.8	38.3	198.8	230.1	31.3	38.3
China	300.2	317.0	12.5	63.6	309.2	322.2	12.3	62.8
Developing countries	475.5	554.5	78.4	57.1	477.4	558.5	77.7	53.7
Mexico	17.8	23.4	5.7	1.3	19.3	24.0	4.7	1.3
Central America	4.8	9.8	4.9	0.7	5.0	9.9	4.9	0.7
Brazil	39.7	41.5	1.6	5.7	36.5	41.1	3.3	4.4
Argentina	14.7	9.9	(5.6)	0.5	23.3	11.2	(11.7)	0.8
Paraguay	0.9	1.0	0.1	0.1	1.1	1.2	0.1	0.1
Other South America	12.7	18.9	6.0	1.8	12.6	18.6	5.9	1.6
North Africa	19.3	37.5	18.4	2.7	19.2	38.4	18.6	2.1
Middle East	45.9	63.9	18.2	12.5	39.0	64.1	23.3	10.7
Sub-Saharan Africa	51.9	57.0	6.6	5.0	48.1	54.7	6.8	5.2
India	143.7	146.7	2.3	14.8	146.7	147.8	1.0	14.7
Other Asia	144.0	165.2	20.6	12.0	146.9	168.4	21.6	12.1
World total	1,552.8	1,652.6	--	301.0	1,671.0	1,683.7	--	288.2

Source: USDA, as of July 1989.

[1] Regional totals include some high-income developing countries not treated in this report. [2] Region and world totals may not add due to rounding. [3] Figures in parentheses indicate net exports. [4] Forecast.

Wheat: World production, consumption, net imports, and ending stocks [1]/

Region/country[2]/	Production	Consumption	Net imports[3]/	Ending stocks	Production	Consumption	Net imports[3]/	Ending stocks
	1986/87				1987/88			
	Million tons							
Developed Countries	184.3	110.7	(73.1)	87.4	175.5	112.4	(86.5)	64.0
United States	56.9	32.5	(26.8)	49.6	57.4	29.7	(42.9)	34.3
Canada	31.4	6.4	(20.8)	12.7	26.0	7.8	(23.5)	7.3
EC-12	72.0	56.7	(14.6)	17.1	71.4	58.3	(14.9)	15.3
Other Western Europe	4.3	3.6	(0.7)	2.0	4.0	3.7	(0.4)	1.9
South Africa	2.3	2.3	(0.0)	0.5	3.1	2.7	(0.3)	0.6
Japan	0.9	6.3	5.4	1.6	0.9	6.2	5.3	1.6
Australia	16.1	2.6	(15.6)	3.8	12.4	3.6	(9.9)	2.8
New Zealand	0.4	0.4	(0.0)	0.1	0.3	0.4	0.1	0.1
Centrally planned countries	222.9	246.5	27.2	54.4	210.4	248.4	38.6	55.1
Eastern Europe	39.1	39.5	2.0	2.5	39.8	41.4	1.5	2.4
USSR	92.3	102.8	15.5	24.2	83.3	101.5	21.0	27.0
China	90.0	101.5	8.5	27.7	85.8	25.7	15.0	25.7
Developing countries	123.4	162.3	43.0	34.4	115.8	168.5	45.5	27.2
Mexico	4.5	5.0	0.5	0.4	3.7	4.3	0.7	0.5
Central America	0.0	2.8	2.9	0.3	0.1	3.0	2.9	0.3
Brazil	5.6	8.0	2.8	0.8	6.1	7.1	1.3	1.0
Argentina	8.9	4.5	(4.4)	0.2	8.8	4.6	(3.7)	0.7
Paraguay	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.1
Other South America	2.4	6.0	3.9	1.1	2.3	6.4	4.0	0.9
North Africa	7.6	20.8	13.1	0.8	7.6	20.9	14.2	1.7
Middle East	26.6	33.8	8.2	8.5	24.3	34.6	8.5	6.6
Sub-Saharan Africa	1.6	6.4	4.9	0.6	1.6	6.5	4.8	0.4
India	47.1	45.6	(0.5)	16.0	44.3	49.8	(0.5)	10.0
Other Asia	20.3	31.7	12.6	5.7	18.3	33.3	14.2	4.9
World total	530.7	522.4	--	176.1	501.8	531.6	--	146.3
	1988/89[4]/				1989/90[5]/			
	Million tons							
Developed Countries	162.7	107.3	(75.7)	43.7	184.1	110.1	(77.7)	40.0
United States	49.3	26.2	(38.5)	18.9	57.6	27.6	(32.8)	16.1
Canada	15.7	5.1	(12.2)	5.7	26.0	6.0	(20.0)	5.7
EC-12	74.7	60.1	(17.5)	12.4	77.6	60.5	(17.7)	11.9
Other Western Europe	3.8	3.7	(0.2)	1.9	4.1	3.6	(0.6)	1.8
South Africa	3.5	2.4	(1.2)	0.6	3.3	2.6	(0.8)	0.5
Japan	1.0	5.9	4.8	1.5	0.9	5.9	4.8	1.3
Australia	14.5	3.5	(11.1)	2.7	14.3	3.5	(10.8)	2.7
New Zealand	0.2	0.4	0.2	0.1	0.2	0.4	0.1	0.0
Centrally planned countries	217.5	251.1	30.4	51.8	225.1	254.1	28.8	51.6
Eastern Europe	45.1	43.6	(1.3)	2.6	41.1	41.9	0.6	2.4
USSR	84.4	99.9	14.5	26.0	91.5	102.5	11.0	26.0
China	86.4	104.9	16.0	23.2	91.0	107.0	16.0	23.2
Developing countries	120.1	171.9	45.5	21.0	124.2	172.2	47.2	20.2
Mexico	3.2	4.2	0.9	0.4	3.9	4.3	0.3	0.3
Central America	0.0	3.0	2.9	0.3	0.1	3.0	3.0	0.3
Brazil	5.8	8.0	1.3	0.1	4.5	7.5	3.0	0.1
Argentina	7.8	4.6	(3.7)	0.2	10.5	4.6	(5.8)	0.3
Paraguay	0.3	0.4	0.1	0.1	0.3	0.4	0.1	0.1
Other South America	2.4	6.2	3.7	0.7	2.3	6.2	3.8	0.6
North Africa	8.4	22.5	13.9	1.5	8.3	22.9	13.9	0.9
Middle East	27.8	34.5	6.5	6.5	23.7	34.7	10.4	6.0
Sub-Saharan Africa	1.8	6.4	4.5	0.4	1.7	6.2	4.4	0.4
India	45.1	51.2	2.1	6.0	50.0	50.5	1.0	6.5
Other Asia	18.9	33.5	14.4	4.7	20.3	34.6	14.3	4.7
World total	500.2	530.0	--	116.5	533.4	538.1	--	111.8

Source: USDA, as of July 1989.

[1]/ Regional totals include some high-income developing countries not treated in this report. [2]/ Region and world totals may not add due to rounding. [3]/ Figures in parentheses indicate net exports. [4]/ Preliminary. [5]/ Forecast.

Rice: World production, consumption, net imports, and ending stocks [1]

Region/country[2]	Production	Consumption	Net imports[3]	Ending stocks	Production	Consumption	Net imports[3]	Ending stocks
	1986/87				1987/88			
	Million tons							
Developed Countries	16.6	14.3	(2.2)	4.5	15.6	14.1	(1.9)	4.0
United States	4.3	2.5	(2.6)	1.7	4.1	2.6	(2.2)	1.0
Canada	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
EC-12	1.3	1.5	0.3	0.4	1.3	1.5	0.2	0.4
Other Western Europe	0.0	0.2	0.2	0.0	0.0	0.1	0.1	0.0
South Africa	0.0	0.2	0.2	0.0	0.0	0.2	0.2	0.0
Japan	10.6	9.7	0.0	2.0	9.7	9.5	0.0	2.2
Australia	0.4	0.1	(0.4)	0.4	0.5	0.1	(0.4)	0.4
New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Centrally planned countries	136.8	140.2	0.4	24.6	137.8	140.1	0.2	22.6
Eastern Europe	0.2	0.5	0.3	0.1	0.2	0.5	0.3	0.1
USSR	1.7	2.0	0.2	0.0	1.7	1.8	0.1	0.0
China	120.6	123.1	(0.5)	24.5	122.1	22.5	(0.3)	22.5
Developing countries	165.0	167.0	0.2	20.2	159.2	165.5	0.9	14.8
Mexico	0.4	0.4	0.0	0.1	0.4	0.4	0.0	0.0
Central America	1.2	1.7	0.5	0.2	1.1	1.7	0.5	0.1
Brazil	7.1	7.2	0.1	1.9	8.0	7.7	(0.1)	2.2
Argentina	0.2	0.1	(0.1)	0.0	0.2	0.1	(0.1)	0.0
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other South America	3.0	3.0	(0.1)	0.6	3.2	3.1	(0.1)	0.6
North Africa	1.8	1.9	0.0	0.0	1.6	1.6	0.0	0.0
Middle East	1.2	3.7	2.9	0.5	1.2	3.6	2.3	0.4
Sub-Saharan Africa	4.5	6.8	2.5	0.5	4.4	6.6	2.3	0.6
India	60.4	60.1	(0.3)	9.0	56.4	60.7	0.5	5.2
Other Asia	99.4	96.6	(4.9)	7.4	96.5	93.9	(4.3)	5.6
World total	318.3	323.1	--	49.2	312.6	320.5	--	41.4
	1988/89[4]				1989/90[4]			
	Million tons							
Developed Countries	15.9	14.5	(2.0)	3.5	16.5	14.6	(1.8)	3.6
United States	5.1	2.7	(2.3)	1.0	4.9	2.8	(2.2)	0.8
Canada	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
EC-12	1.3	1.6	0.2	0.4	1.2	1.6	0.2	0.3
Other Western Europe	0.0	0.2	0.2	0.0	0.0	0.2	0.2	0.0
South Africa	0.0	0.3	0.3	0.0	0.0	0.3	0.3	0.0
Japan	9.0	9.5	0.0	1.8	9.8	9.5	0.0	2.1
Australia	0.6	0.1	(0.5)	0.3	0.5	0.1	(0.4)	0.3
New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Centrally planned countries	136.2	137.0	0.8	22.6	139.1	139.5	0.4	22.6
Eastern Europe	0.2	0.5	0.3	0.1	0.2	0.5	0.3	0.1
USSR	1.9	2.1	0.3	0.0	1.8	2.1	0.3	0.0
China	119.7	120.6	0.9	22.5	122.5	122.7	0.2	22.5
Developing countries	172.2	170.4	0.3	16.8	172.7	174.0	0.7	16.3
Mexico	0.3	0.4	0.1	0.0	0.4	0.5	0.1	0.0
Central America	1.1	1.7	0.6	0.1	1.2	1.7	0.5	0.2
Brazil	7.2	7.6	(0.0)	1.8	7.2	7.6	0.1	1.4
Argentina	0.2	0.1	(0.2)	0.0	0.3	0.1	(0.1)	0.0
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other South America	3.3	3.1	(0.3)	0.5	3.3	3.1	(0.3)	0.4
North Africa	1.5	1.4	(0.0)	0.0	1.7	1.7	0.0	0.0
Middle East	1.3	3.9	2.8	0.5	1.3	4.1	2.8	0.5
Sub-Saharan Africa	4.5	6.9	2.3	0.6	4.5	7.0	2.5	0.6
India	66.0	63.5	0.1	7.8	65.0	65.3	0.0	7.5
Other Asia	101.3	95.5	(5.9)	5.5	102.5	97.2	(5.1)	5.7
World total	324.4	322.8	--	42.9	328.2	328.7	--	42.4

Source: USDA, as of July 1989.

1/ Regional totals include some high-income developing countries not treated in this report. 2/ Region and world totals may not add due to rounding. 3/ Figures in parenthese indicate net exports. 4/ Forecast.

Coarse Grain: World production, consumption, net imports, and ending stocks [1]/

Region/country[2]/	Production	Consumption	Net imports[3]/	Ending stocks	Production	Consumption	Net imports[3]/	Ending stocks
	1986/87				1987/88			
	Million tons							
Developed Countries	388.2	325.0	(39.7)	177.5	350.4	326.7	(41.2)	160.0
United States	252.8	181.6	(45.5)	152.6	215.9	182.8	(51.5)	134.1
Canada	25.5	19.1	(6.5)	5.8	25.5	20.2	(5.0)	6.1
EC-12	81.7	79.4	(4.0)	13.5	82.3	78.2	(4.1)	13.5
Other Western Europe	12.2	11.9	(0.5)	2.1	10.8	11.2	0.4	2.1
South Africa	7.9	6.8	(1.5)	0.9	7.9	7.1	(0.8)	1.0
Japan	0.4	21.8	21.5	2.3	0.4	22.5	22.4	2.6
Australia	6.8	3.8	(3.1)	0.2	6.8	4.1	(2.4)	0.5
New Zealand	0.9	0.6	(0.2)	0.2	0.7	0.7	(0.1)	0.1
Centrally planned countries	270.7	282.2	9.7	37.5	278.2	288.6	10.3	37.4
Eastern Europe	73.9	72.9	0.7	7.1	64.6	70.0	3.8	5.5
USSR	105.9	114.9	11.0	11.2	113.7	122.6	10.0	12.3
China	87.0	90.5	(2.0)	19.2	95.8	19.6	(3.5)	19.6
Developing countries	176.4	201.3	29.0	18.8	163.5	195.3	28.7	15.7
Mexico	14.9	19.0	4.2	0.8	14.5	18.7	4.0	0.6
Central America	3.3	4.7	1.4	0.3	3.4	4.9	1.5	0.3
Brazil	27.3	27.1	0.5	1.9	25.4	24.8	0.2	2.7
Argentina	13.0	8.0	(5.1)	0.6	13.1	6.9	(6.3)	0.5
Paraguay	0.5	0.5	0.0	0.0	0.7	0.7	0.0	0.0
Other South America	6.3	8.1	1.7	0.5	6.9	9.7	3.0	0.6
North Africa	10.0	13.5	4.2	1.5	8.3	13.3	4.2	0.7
Middle East	14.2	25.3	14.2	5.9	13.9	24.5	10.0	5.3
Sub-Saharan Africa	41.2	40.9	(0.4)	5.2	36.3	39.2	0.3	2.6
India	26.6	26.7	(0.0)	0.5	23.5	23.9	0.3	0.3
Other Asia	22.8	31.2	8.3	1.6	21.6	32.8	11.6	2.1
World total	835.2	809.5	--	233.8	792.1	812.8	--	213.1
	1988/89[4]/				1989/90[4]/			
	Million tons							
Developed Countries	288.5	304.7	(55.1)	88.7	354.6	314.1	(46.8)	82.3
United States	149.6	158.5	(61.6)	63.6	222.1	167.6	(56.5)	61.6
Canada	19.6	18.5	(2.8)	4.5	23.3	18.8	(4.4)	4.6
EC-12	88.7	81.8	(6.1)	14.3	80.7	81.1	(3.2)	10.7
Other Western Europe	11.1	11.2	0.1	2.1	11.4	11.4	(0.3)	1.9
South Africa	11.7	7.0	(4.3)	1.3	8.8	7.2	(2.0)	0.9
Japan	0.4	22.7	22.2	2.5	0.4	23.0	22.5	2.3
Australia	6.7	4.4	(2.5)	0.4	7.2	4.3	(2.9)	0.3
New Zealand	0.6	0.7	(0.0)	0.0	0.7	0.7	(0.0)	0.0
Centrally planned countries	256.5	284.8	24.4	33.6	274.2	293.0	19.7	34.5
Eastern Europe	60.8	67.6	4.7	3.5	69.0	70.8	3.5	5.1
USSR	97.5	121.5	24.0	12.3	105.5	125.5	20.0	12.3
China	94.2	91.5	(4.4)	17.9	95.7	92.5	(3.9)	17.1
Developing countries	183.2	212.2	32.6	19.3	180.5	212.3	29.7	17.2
Mexico	14.3	18.8	4.7	0.9	15.0	19.3	4.4	0.9
Central America	3.7	5.2	1.4	0.3	3.7	5.2	1.4	0.3
Brazil	26.7	25.9	0.3	3.8	24.8	25.9	0.3	2.9
Argentina	6.7	5.2	(1.7)	0.2	12.5	6.5	(5.8)	0.5
Paraguay	0.6	0.6	0.0	0.0	0.7	0.7	0.0	0.0
Other South America	7.0	9.6	2.6	0.6	6.9	9.3	2.4	0.6
North Africa	9.5	13.5	4.5	1.2	9.2	13.9	4.7	1.3
Middle East	16.8	25.5	8.8	5.4	14.0	25.3	10.1	4.2
Sub-Saharan Africa	45.6	43.8	(0.3)	4.1	41.8	41.6	(0.1)	4.3
India	32.6	32.0	0.1	1.1	31.7	32.1	0.0	0.7
Other Asia	23.8	36.3	12.1	1.8	24.2	36.7	12.4	1.7
World total	728.2	799.7	--	141.6	809.4	817.0	--	134.0

Source: USDA, as of July 1989.

[1]/ Regional totals include some high-income developing countries not treated in this report. [2]/ Region and world totals may not add due to rounding. [3]/ Figures in parentheses indicate net exports. [4]/ Forecast.

Total Vegetable and Marine Oils: World production, consumption, net imports, and ending stocks [1]/

Region/country[2]/	Production	Consumption	Net imports[3]/	Ending stocks	Production	Consumption	Net imports[3]/	Ending stocks
	1986/87				1987/88			
	Thousand tons							
Developed Countries	17,333	18,138	1,028	2,864	18,829	18,568	215	3,332
United States	6,714	6,500	130	1,154	7,084	6,603	(259)	1,376
Canada	823	583	(237)	54	851	623	(248)	34
EC-12	7,030	7,870	685	1,442	8,069	8,073	241	1,671
Other Western Europe	473	569	82	95	479	631	166	109
South Africa	294	367	90	17	272	360	71	0
Japan	1,849	1,940	119	102	1,943	1,990	87	142
Australia	150	284	134	0	131	263	132	0
New Zealand	0	25	25	0	0	25	25	0
Centrally planned countries	8,773	10,291	1,579	229	9,359	10,555	1,139	172
Eastern Europe	1,961	1,840	(60)	229	1,824	1,768	(113)	172
USSR	2,885	3,798	913	0	3,191	3,781	680	0
China	3,813	4,533	720	0	4,323	0	564	0
Developing countries	24,053	21,136	(3,208)	2,844	24,940	22,866	(1,776)	3,142
Mexico	713	857	91	41	630	886	283	68
Central America	255	519	253	31	257	482	228	34
Brazil	2,795	1,978	(1,022)	126	2,813	2,094	(710)	135
Argentina	2,078	488	(1,660)	95	2,541	550	(1,938)	148
Paraguay	55	29	(26)	0	83	30	(53)	0
Other South America	858	1,266	378	248	1,017	1,452	484	297
North Africa	354	1,289	934	105	321	1,435	1,095	86
Middle East	916	2,199	1,320	123	784	2,299	1,512	120
Sub-Saharan Africa	2,489	2,594	106	10	2,519	2,711	196	14
India	3,006	4,462	1,526	370	3,124	4,989	1,935	440
Other Asia	10,380	5,520	(4,889)	1,695	10,695	6,009	(4,581)	1,800
World total	50,159	49,565	--	5,937	53,128	51,989	--	6,646
	1988/89[4]/				1989/90[4]/			
	Thousand tons							
Developed Countries	17,330	18,667	909	2,904	17,921	19,048	1,136	2,913
United States	6,506	6,564	(22)	1,296	6,732	6,792	74	1,310
Canada	823	661	(157)	39	863	683	(160)	59
EC-12	7,287	8,197	587	1,348	7,529	8,240	732	1,369
Other Western Europe	468	635	159	101	525	653	115	88
South Africa	212	309	97	0	217	327	110	0
Japan	1,917	2,019	80	120	1,916	2,040	91	87
Australia	117	252	135	0	139	281	142	0
New Zealand	0	30	30	0	0	32	32	0
Centrally planned countries	8,740	10,777	2,021	156	9,284	11,175	1,868	133
Eastern Europe	1,713	1,796	67	156	1,885	1,926	18	133
USSR	3,140	3,952	812	0	3,208	4,055	847	0
China	3,771	4,910	1,139	0	4,075	5,075	1,000	0
Developing countries	27,058	23,941	(3,277)	2,982	28,245	24,806	(3,424)	2,997
Mexico	619	911	288	64	644	931	290	67
Central America	254	481	225	32	270	516	242	28
Brazil	3,184	2,113	(1,011)	195	3,133	2,216	(921)	191
Argentina	2,343	568	(1,804)	119	2,824	579	(2,190)	174
Paraguay	97	40	(57)	0	108	45	(63)	0
Other South America	1,151	1,502	291	237	1,167	1,569	380	215
North Africa	292	1,476	1,161	63	341	1,581	1,241	64
Middle East	993	2,474	1,498	137	989	2,595	1,584	115
Sub-Saharan Africa	2,440	2,757	315	12	2,548	2,820	274	14
India	3,908	5,049	841	140	3,649	4,926	1,307	170
Other Asia	11,607	6,639	(4,785)	1,983	12,402	7,093	(5,333)	1,959
World total	53,128	53,385	--	6,042	55,450	55,029	--	6,043

Source: USDA, as of July 1989.

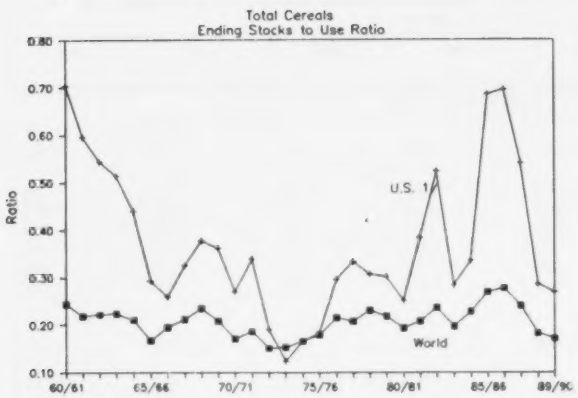
[1]/ Regional totals include some high-income developing countries not treated in this report. [2]/ Region and world totals may not add due to rounding. [3]/ Figures in parentheses indicate net exports. [4]/ Forecast.

Soybean Oil: World production, consumption, net imports, and ending stocks [1]/

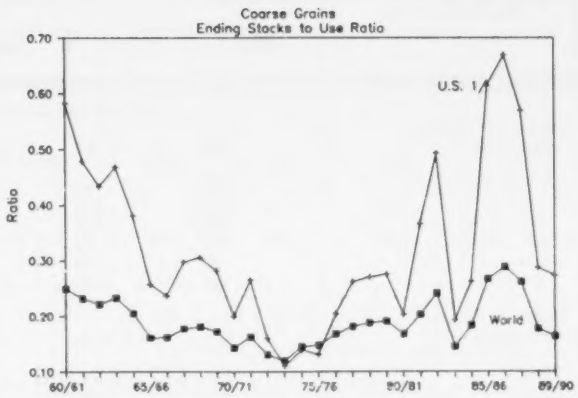
Region/country[2]/	Production	Consumption	Net imports[3]/	Ending stocks	Production	Consumption	Net imports[3]/	Ending stocks
	1986/87				1987/88			
	Thousand tons							
Developed Countries	9,148	7,499	(1,305)	1,022	9,179	7,614	(1,365)	1,222
United States	5,798	4,915	(531)	782	5,885	4,957	(761)	949
Canada	158	172	9	3	166	173	7	3
EC-12	2,364	1,457	(908)	213	2,294	1,540	(730)	237
Other Western Europe	90	170	81	15	98	168	70	15
South Africa	4	16	12	0	7	17	10	0
Japan	709	710	(2)	9	698	694	5	18
Australia	25	45	20	0	31	50	19	0
New Zealand	0	14	14	0	0	15	15	0
Centrally planned countries	1,151	1,906	774	63	1,315	1,675	330	33
Eastern Europe	228	341	132	63	214	308	64	33
USSR	325	540	215	0	324	439	115	0
China	546	960	414	0	728	0	136	0
Developing countries	4,794	5,277	288	639	5,172	5,815	837	833
Mexico	305	335	25	19	305	340	49	33
Central America	34	168	124	16	35	157	125	19
Brazil	2,605	1,832	(916)	117	2,577	1,960	(600)	134
Argentina	853	93	(800)	18	1,194	164	(980)	68
Paraguay	21	11	(10)	0	28	12	(16)	0
Other South America	134	399	248	38	135	466	338	45
North Africa	46	236	185	15	41	190	151	17
Middle East	119	715	597	14	117	756	640	15
Sub-Saharan Africa	22	127	106	1	25	126	101	1
India	142	445	363	220	148	517	419	270
Other Asia	565	981	379	181	616	1,191	625	231
World total	15,093	14,682	--	1,724	15,666	15,104	--	2,088
	1988/89[4]/				1989/90[4]/			
	Thousand tons							
Developed Countries	8,207	7,314	(956)	1,159	8,710	7,703	(964)	1,202
United States	5,338	4,763	(578)	946	5,618	4,990	(621)	953
Canada	160	170	10	3	178	188	10	3
EC-12	1,918	1,456	(511)	188	2,093	1,555	(498)	228
Other Western Europe	87	167	75	10	87	171	84	10
South Africa	9	19	10	0	9	29	20	0
Japan	675	690	9	12	700	716	12	8
Australia	20	34	14	0	25	39	14	0
New Zealand	0	15	15	0	0	15	15	0
Centrally planned countries	1,173	1,686	508	28	1,282	1,807	527	30
Eastern Europe	190	323	128	28	226	346	122	30
USSR	253	398	145	0	294	489	195	0
China	685	910	225	0	717	917	200	0
Developing countries	5,482	5,925	251	641	5,769	6,082	346	674
Mexico	280	333	55	35	305	355	50	35
Central America	35	146	109	17	41	173	130	15
Brazil	2,975	2,000	(915)	194	2,920	2,100	(825)	189
Argentina	990	125	(875)	58	1,255	135	(1,100)	78
Paraguay	38	20	(18)	0	42	22	(20)	0
Other South America	158	464	314	53	169	473	302	51
North Africa	38	207	167	15	38	215	177	15
Middle East	119	764	646	16	140	831	691	16
Sub-Saharan Africa	28	132	104	1	29	146	117	1
India	226	531	75	40	208	358	150	40
Other Asia	640	1,258	599	212	667	1,329	684	234
World total	14,862	14,925	--	1,828	15,761	15,592	--	1,906

Source: USDA, as of July 1989.

[1]/ Regional totals include some high-income developing countries not treated in this report. [2]/ Region and world totals may not add due to rounding. [3]/ Figures in parentheses indicate net exports. [4]/ Forecast.



1/ U.S. ratio of stocks to domestic use plus exports.



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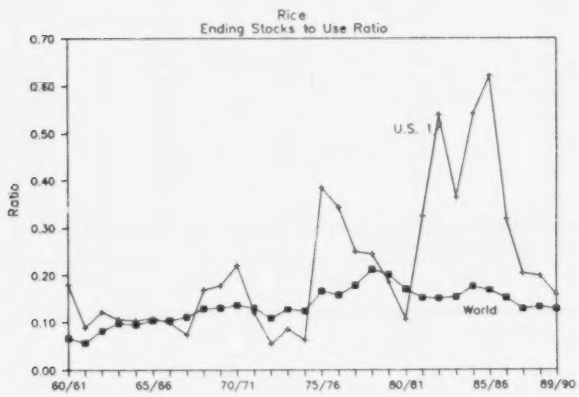

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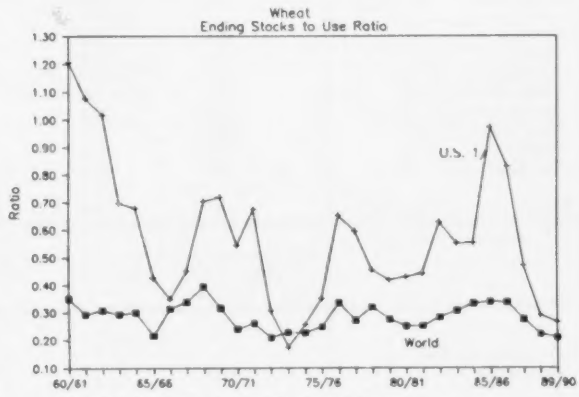

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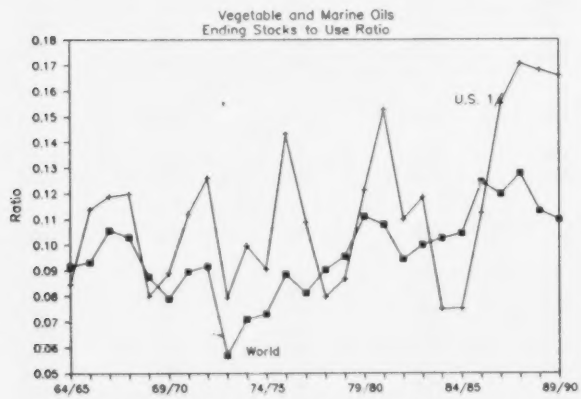

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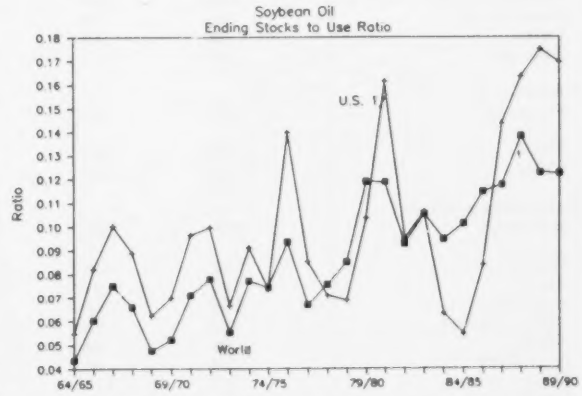

1/ U.S. ratio of stocks to domestic use plus exports.

Indices of world and regional food production

Region/country	Total food production						
	1982	1983	1984	1985	1986	1987	1988
	(1979-81 = 100)						
Developed market economies	104	97	106	108	106	105	100
United States	105	89	102	108	102	99	91
Canada	117	109	109	114	123	118	101
Western Europe	105	103	109	107	107	109	107
South Africa	96	79	88	94	97	102	106
Japan	99	99	108	109	109	105	103
Australia	87	116	110	107	108	103	107
Centrally planned economies	107	113	118	119	126	128	127
USSR	104	109	110	110	118	118	118
China	111	120	129	129	135	140	139
Developing market economies	106	109	113	116	118	117	123
Mexico	103	109	107	113	112	111	111
Brazil	112	108	113	124	118	128	137
Argentina	107	105	107	106	107	107	107
Latin America	107	106	109	114	113	116	120
Africa	105	103	104	113	118	115	119
Near East	109	107	106	113	118	117	122
India	104	119	122	124	124	121	132
Far East	105	114	118	120	122	120	127
World	106	106	111	114	116	116	116

Region/country	Per capita food production						
	1982	1983	1984	1985	1986	1987	1988
	(1979-81 = 100)						
Developed market economies	103	95	103	104	102	100	95
United States	103	87	98	103	97	93	85
Canada	114	106	104	108	116	110	93
Western Europe	104	102	108	106	105	107	105
South Africa	91	74	80	83	84	86	87
Japan	98	97	105	105	105	100	98
Australia	85	111	104	100	100	94	97
Centrally planned economies	105	106	113	113	118	118	116
USSR	103	107	106	106	112	110	110
China	109	115	122	121	125	129	126
Developing market economies	101	102	102	103	103	100	102
Mexico	97	100	97	99	96	93	91
Brazil	108	101	104	111	103	110	115
Argentina	104	100	101	98	97	96	95
Latin America	102	99	99	101	99	99	100
Africa	99	94	92	97	98	93	93
Near East	104	99	96	99	101	97	98
India	100	112	113	112	111	106	114
Far East	101	108	108	108	108	104	108
World	102	101	104	105	105	103	101

Note: Production reported on a calendar year basis by the Food and Agricultural Organisation of the United Nations.

Selected world cereal and oilseed prices

Product	Marketing year	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
		Dollars per ton					
Wheat, #2, HRW, f.o.b. U.S. Gulf ports	June/May	150	132	110	120	165	160-175
Rice, 5% broken, f.o.b. Bangkok Thailand	August/July	232	213	208	284	300 [1]	300-350
Corn, #1, yellow, f.o.b. U.S. Gulf ports	September/August	120	101	74	95	118 [1]	88-110
Soybean oil, Decatur	October/September	647	394	333	494	478 [1]	430-520

[1]/ Average, beginning of market year through June.

Food Aid Availabilities and Outlook

The Food and Agriculture Organization (FAO) estimates that world cereal aid shipments in the July 1988-June 1989 trade year fell below 9.8 million tons, the lowest level since 1983/84. This was more than a 25-percent decline from the 1987/88 levels, the sharpest 1-year decline since 1973/74. However, aid shipments were still well above the early 1980's. If this estimate proves true, 1988/89 was the first time in 4 years that cereal aid shipments fell below the 1974 World Food Conference target of 10 million tons. Given continuing tight world supplies, cereal aid shipments will likely decline again in 1989/90.

A combination of factors caused the sharp decline. First, with lower harvests in North America and elsewhere, surplus stocks that overhung world wheat markets were reduced. This lowered the amount of surplus wheat that could be donated under one of the United States' food aid programs. Second, higher commodity prices reduced the volume of aid provided with set food aid budgets. With tighter world supplies, commodity prices increased sharply. For example, U.S. wheat prices for the June 1988-May 1989 year were 45 percent above their 1987/88 level. Corn prices in 1988/89 are expected to be about 30 percent higher than the previous year and rice prices are expected to increase, although to a lesser extent. A third factor that decreased food aid shipments was budget cutbacks in some donor countries.

Cereals comprise the overwhelming volume of world food aid. Major donors are the United States, estimated to provide 56 percent of world cereal aid, the (EC) with 20 percent, Canada 10 percent, Japan 4 percent, and Australia 3 percent. The 56-percent figure for the United States would be the lowest share of the total since 1974/75. Noncereal food aid, especially vegetable oils and dairy products, have been regularly provided.

The value of food aid from OECD countries amounted to $2.9 billion in 1987, the last year for which data are available. This represents a decrease of less than 2 percent from the 1986 level. Multilateral aid comprised about 22 percent, down from 24 percent the previous year. Food grants accounted for 74 percent of total food aid, up from 69 percent.

Pledges of food aid to Sub-Saharan Africa for 1988/89 or 1989 amounted to slightly more than 3.6 million tons, as of June, 1989. Of this total, about 15 percent is pledged to be provided through triangular transactions or local purchases. Through triangular transactions, donors provide aid commodities from third country sources. Local purchases are where donors obtain commodities in one part of the recipient country for distribution in another part of the country.

Contributions to the International Emergency Food Reserve, administered by the World Food Program, fell 33,000 tons shy of the 500,000-ton goal in 1988. As of May 1989, cereal pledges amounted to more than 410,000 tons. While almost 95,000 tons of non-cereal aid were provided in 1988, less than 20,000 tons were pledged by May.

United States

Food aid under the P.L. 480 program for fiscal 1989 is budgeted at nearly $1.5 billion, essentially the same as in 1988. Of this, more than $800 million is programmed under Title I/III and the remainder under Title II. With higher commodity prices, the volume expected to be provided with P.L. 480 funds is about 5.7 million metric tons, down 15-20 percent from last year.

As of May, wheat and wheat products accounted for about 70 percent of the P.L. 480 volume, with feed grains following distantly with about 10 percent. Rice and vegetable oils accounted for 5-10 percent each, with other commodities accounting for lesser amounts. Asian and Near East countries were allocated slightly more than half of the value of the program shipments, while African and Latin American countries split the remainder fairly evenly.

For the first time since the African famine of 1984/85, the Food Security Wheat Reserve has been tapped to help meet overseas food aid needs in fiscal 1989. The President authorized 1.5 million tons of the 4-million-ton reserve to be provided under P.L. 480. The 1.5 million tons are expected to be used. The United States also provides food aid under authority of Section 416(b) of the amended Agricultural Act of 1949. Under this program, surplus CCC stocks are provided through P.L. 480 Title II channels. As of July, almost 950,000 tons of corn and

sorghum had been allocated. Allocations in fiscal 1988 were almost 1.8 million tons and included wheat.

The U.S. has consistently exceeded its pledge to the Food Aid Convention (FAC) whose members, in aggregate, pledge to provide at least 7.5 million tons of cereal aid annually. In trade year 1988/89, the U.S. is again expected to exceed its 4.47-million-ton pledge.

For fiscal 1990, the President has proposed a P.L. 480 program level again of nearly $1.5 billion, with about $820 million under Title I/III and $665 million under Title II. This funding should provide about 5.7 million tons, although changes in commodity prices will affect this estimate. The volume of donations under the Section 416(b) program will depend on CCC inventories and approved program requests.

Australia

The FAO estimates that Australian cereal aid shipments for the July 1988-June 1989 trade year were 330,000 tons, about the same as the previous year. The Australian food aid budget for the concurrent 1989 fiscal year increased 6 percent in value to A$105 million (about US$84 million). Under the FAC, Australia has agreed to provide a minimum of 300,000 tons (grain equivalent) as aid. All Australian food aid is in the form of grants.

Australia has pledged nearly 105,000 tons of cereals to Sub-Saharan countries, of which about one-third is in the form of triangular transactions. Mozambique alone accounts for almost half of the total.

Canada

The FAO estimates that Canadian cereal aid shipments in fiscal 1989 were one million tons, again exceeding its FAC pledge of 600,000 tons. Most of Canadian cereal aid usually goes to Asian countries, followed by African and Latin American nations.

As of June, Canada had pledged almost 185,000 tons of cereal aid to Sub-Saharan countries, with Mozambique, Sudan, and Zambia being major destinations. About 20 percent of the total donations were pledged in the form of triangular transactions or local purchases.

The April 1989-March 1990 food aid budget reflects a reduction of about 13 percent to C$336 million (a little less than US$310 million). Multilateral aid will be reduced to about C$169 million (US$143 million) while bilateral assistance will fall to C$197 million (about US$166 million).

European Community

The EC shipped about 2 million tons of cereals in 1988/89 against its FAC pledge of 1.67 million tons, according to the FAO.

In March, the EC Commission announced a fiscal 1989 food aid program of about 715 million ECU (slightly more than US$810 million), involving volumes slightly higher than in 1988. About 1.36 million tons of cereals are to be available, compared with 1.16 million tons announced for the 1988 food aid program. (In August 1988, the EC made available another 200,000 tons of commodities in cereal equivalent to cover exceptional food shortages.) The estimated 1989 cost of cereals is slightly more than 300 million ECU (approximately US$345 million). Another 350 million ECU (nearly US$400 million) is expected for the donation of EC dairy products in 1989, about 94,000 tons of milk powder and 25,000 tons of butteroil. These volumes are unchanged from 1988. More than 55 million ECU (nearly US$65 million) is available for other products. The vegetable oil allocation (including olive oil) was increased by 19 percent to 40,000 tons, while the sugar allocation was increased almost 30 percent to 14,200 tons. A maximum of 200,000 tons (grain equivalent) of other products--such as meat, fish products and processed food--is available, compared with more than 290,000 tons announced in March 1988. For the first time, peanuts will be available as EC food aid. All food aid is provided in grant form.

By June, the EC had pledged almost 1.1 million tons to Sub-Saharan countries, mainly Mozambique, Angola, and Ethiopia. Almost one-quarter of the total is to be provided through triangular transactions and local purchases.

Japan

The FAO estimates that Japan provided 380,000 tons of cereal aid in 1988/89, compared to its FAC pledge of 300,000 tons. Japan has lately been the fourth largest cereal aid donor.

Of the major donors, Japan alone provides all of its cereal aid through triangular transactions. Japanese wheat and flour donations are purchased in the United States for delivery to the intended recipients. Rice is purchased from Asian exporters and maize from Zimbabwe. Japan has pledged about 120,000 tons of cereal aid to Sub-Saharan countries, with Somalia, Sudan, and Mozambique the top recipients.

Volume of food aid contributions, principal commodities

Commodity/country	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	Estimated shipments 1/ 1988/89	1989/90
	1,000 metric tons (grain equivalent 2)								
Grains 3	9140	9238	9849	12510	10949	12579	13382	9757	9400
Argentina	20	33	30	51	44	24	25	35	30
Australia	485	349	460	466	345	368	328	330	300
Canada	600	843	817	943	1216	1240	1062	1000	900
European Community 4	1602	1596	1917	2505	1614	1863	2450	2000	2000
Finland	9	28	40	20	5	41	3	25	25
Japan	507	517	445	295	450	529	547	380	350
Norway	36	36	17	45	31	46	54	30	30
Sweden	119	87	83	88	69	74	115	80	40
Switzerland	22	29	30	39	22	58	74	27	27
United States	5341	5375	5655	7536	6675	7861	7946	5500	5400
Others	399	345	355	522	478	455	778	350	298
Other commodities 5	1982	1983	1984	1985	1986	1987	1988	1989	1990
Vegetable oils	346	342	345	384	513	600	NA	NA	NA
United States	300	290	271	310	418	501	NA	NA	NA
Others	46	52	74	74	95	99	NA	NA	NA
Dairy products	334	320	463	432	436	371	NA	NA	NA
United States	129	168	196	273	293	226	NA	NA	NA
Others	205	152	267	159	143	145	NA	NA	NA

NA = Not available.

Sources: Food and Agricultural Organization, Commodities Division, 1989/90 estimates from ERS.

1 / Estimates based on minimum contributions under the 1986 Food Aid Convention, budgetary allocations, historical patterns, current food aid policies, and other sources.

2 / To express cereal food aid in grain equivalent, wheat, rice and coarse grains are counted on a one-to-one basis; for grain products, appropriate conversion factors are used to determine the grain equivalent.

3 July-June trade years

4 Aid from individual members as well as Community actions. Ten member countries, prior to accession of Portugal and Spain.

5 Calendar years.

Additional Food Needs of Low-Income Countries

Summary

This report analyzes food needs in 22 countries; 7 in coastal West Africa, 8 in Southern Africa, 4 in East Africa and 3 in the Carribbean. The countries are listed in the Table of Contents.

Prelinimary estimates of 1989/90 food needs were presented in World Food Needs and Availabilities, May 1989. With the current changes, 1989/90, cereal needs in 1989/90 are 15.4 million tons. These are down from the 17.1 million of 1988/89 and the record 19.5 million tons of 1987/88, but about 2 million greater than at the height of the African famine in 1984/85. Factors maintaining large food aid needs differ among developing countries. But in general, poor export earnings and continued debt service are limiting the ability of developing countries to pay for food imports at the same time that food prices are rising on world markets. Prices of wheat, the principal food assistance cereal, are up in 1988/89 and 1989/90 because exporter stocks have tightened and are at an exceptional low level.

Status quo cereal needs (million tons cereal equivelent) [1]

Year	Need
1984/85	13.4
1985/86	8.5
1986/87	7.4
1987/88	19.5
1988/89	17.1
1089/90	15.4

1/ For 55 countries, including stocks adjustments

Measures of Additional Food Needs--Conceptual Framework

Financial indicators and food and agriculture data are used to generate two alternative measures of food needs in addition to estimated commercial import capacity. These measures reflect the choice countries must make between making extraordinary commercial purchases and seeking food aid. Large commercial imports, particularly in successive years, would be at the cost of other imports, including those of development goods. In addition, a measure is computed of the maximum quantities of commodities that countries could feasibly import. Each measure highlights a different aspect of the food problem in low-income countries, and a different notion of the role food assistance might play in easing the problem. For a more detailed discussion, see the Methodological Notes in the August issue of *World Food Needs and Availabilities*.

The first measure, termed "status quo," estimates the additional food needed to maintain per capita use of food staples at levels reported in recent years. Status quo food needs assessments are stabilized by the method of estimating per capita food use during a base period. Base period food use is calculated as the mean of the most recent 4 years within one standard deviation of the mean of the most recent 8 years. The method is explained in Methodological Notes, published in the summer issue. This per capita food use is called base-use in the following descriptions of tables and elsewhere in this report. The years employed in calculations are 1981/82 through 1988/89. No provision is made for improving substandard diets, for reducing allocations to countries where diets are relatively good, or for correcting problems related to the uneven distribution of food across or within countries. Because status quo estimates support a level of per capita availability that has been achieved in the past, in most cases they can be considered to be consistent with countries' ability to absorb food imports.

The second measure, termed "nutrition-based," estimates the additional food required to raise per capita caloric intake to meet FAO's recommended minimum requirements. This measure is based on the notion that food aid might be utilized in a way consistent with nutritional need rather than to maintain a recent, possibly substandard, status quo. In this sense, the nutrition-based measure might be viewed as a maximum additional food need, but is not necessarily consistent with a country's ability to absorb food imports.

The measure of food import feasibility called "maximum absorbable imports" provides a basis for assessing what quantity of additional food might be imported to help meet large nutrition-based food needs, or possibly building stocks in a period of ample world food supplies. The implicit assumption is that the food delivery systems of many of the countries involved have been fully loaded by past high consumption. In addition, the

highest level of stocks maintained over the previous 8 years is assumed to be the largest level that can currently be maintained. The estimate is intended to provide a crude measure of the amount of food that can be physically absorbed. This level may then be used to scale back nutrition-based additional food need estimates that may be beyond the physical limits of a country's transportation, distribution, and storage capabilities.

While the status quo and nutrition-based methods differ in their estimation, they have a common structure. In each, an estimate of a country's domestic supplies of food staples is subtracted from an estimate of staple food requirements to arrive at an estimate of import requirements. These are then totaled for food groups, based on assumptions regarding their substitutability. An estimate of a country's capacity to commercially import food in each category is then subtracted from the import requirement to arrive at an estimate of additional food needs. Estimated import unit values for each food group are used to generate import requirements and additional food needs estimates in both quantity and value terms.

Several factors affecting additional food needs are not addressed in these estimates. First, food distribution problems--both geographical and across income or population groups--are overlooked by national-level food availability and country-average requirement measures. These can mask acute shortages in specific places within a country and uneven distribution of food across population groups. However, measuring the unevenness of food distribution is extremely difficult, because data are not available. Acute problems of this nature are treated qualitatively in the country narratives.

Second, additional food needs are estimated without reference to a country's food and agriculture policies and current performance. Although these issues figure importantly in a country's choice between exceptional commercial food purchases and concessional food imports, a comprehensive consideration of them is beyond the scope of this report.

Introduction to Country Tables

The following section reports on the food and financial situation and outlook for 55 countries in Africa, Asia, and Latin America. The materials summarize events during the 1988/89 local marketing year (generally July-June) and project food and financial conditions for 1989/90 and 1990/91.

Data shown in the tables must be interpreted with caution. Forecasts of food production, population, and financial conditions for 1989/90 and 1990/91 represent ERS's forecasts of what is likely to happen during those years. But 1989/90 and 1990/91 estimates of all other items--stocks, use, import requirements, and additional needs--are not forecasts of what is likely to happen; they are estimates derived using the status quo and nutrition assumptions summarized in the previous section and explained in detail in the Methodological Notes section of this report. Additional food needs calculations are also subject to a number of adjustments detailed in the August report.

In each of the country tables, any quantity less than 500 tons and any value less than $500,000 are shown as zero.

Tables Entitled "[Country] basic food data"

These tables provide food staple supply and utilization data for 1981/82-1988/89 and for forecast years (1989/90 and 1990/91). An explanation of each column heading follows:

1. Actual or forecast production--actual production for the individual staples for 1981/82-1988/89, and forecast production for 1989/90 and 1990/91.

2. Net imports--actual net imports during 1981/82-1988/89. Net import figures for forecast years are not supplied. Instead, estimated import requirements based on status quo and nutrition-based approaches are provided in the next set of tables.

3. Nonfeed use, 1981/82-1988/89.

4. Feed use--actual feed use, 1981/82-1988/89, and targeted feed use for 1989/90 and 1990/91. Targeted feed use is calculated to maintain per capita feed use at base-use levels. The same base level of feed use is employed in the status quo and nutrition-based estimates of aid needs.

5. Beginning stocks--actual stocks for 1981/82-1988/89, where reliable stocks data are available. Initial calculations of status quo and nutrition-based import and aid needs are done by maintaining the ending stocks for 1988/89 (beginning stocks for 1989/90) constant throughout the forecasting period. Import requirements for building food security stocks are calculated subsequently for the countries for which stock data are available.

6. Per capita total use--actual per capita human consumption and livestock feed use for 1981/82-1988/89.

7. Commodity coverage--the food staples included for each country.

8. Share of diet--each staple's share of total daily caloric intake, and the share of total daily caloric intake covered by the food staples analysed. Data are drawn from the 1979-81 FAO Food Balance Sheets, with adjustments made in some cases for differences in FAO or ERS estimates of feed use or more recent significant changes in a staple's share of the diet.

Tables Entitled "Import requirements for [Country]"

These tables deal only with 1989/90 and 1990/91 estimates. An explanation of each column heading follows:

1. Forecast domestic production--data are drawn from the "basic food data" tables.

2. Total use, status quo--total amount of a staple needed to maintain per capita human consumption at the base-use level and feed use at the targeted level.

3. Total use, nutrition-based--the amount of a staple needed to support daily per capita caloric intake levels at the FAO recommended minimum, plus targeted feed use.

4. Import requirements, quantity, status quo--the imports of a staple required to maintain per capita consumption, and also to achieve the targeted levels of feed use with no change in stocks, as shown in the basic food data table. These estimates are calculated for each staple by subtracting forecast domestic production from status quo-based total use.

Subtotals for each commodity group are calculated by summing the import requirements for individual commodities. Calculated surpluses (negative import requirements) for individual commodities within groups are subtracted from deficits in other commodities, because foods are assumed to be substitutable within groups. Noncereals such as roots and tubers are converted to caloric wheat equivalents before being summed. Negative subtotals are shown as zeros because these calculated surpluses are assumed not to be substitutable elsewhere in the diet.

5. Import requirements, quantity, nutrition-based--the imports of a staple required to support recommended minimum per capita caloric intake and targeted feed use, as no change in stocks is shown in the basic food data tables. These estimates are calculated by subtracting forecast domestic production from nutrition-based total use. Totals for each commodity group by year are computed as described in (4) above.

6. Import requirements, maximum--the largest quantity that could be managed if countries wished to take the greatest advantage of low grain prices to improve stocks or to improve on the nutritional status of the population.

Tables Entitled "Financial indicators for [Country], actual and projected"

These tables give historical data and forecasts for four key financial indicators: yearend international reserves, merchandise exports, merchandise imports, and debt-service obligations. All data are on a calendar year basis and are compiled from a variety of sources, including the World Bank, the International Monetary Fund, Chase Econometrics, country sources, and ERS estimates.

Tables Entitled "Additional food needs for [Country], with stock adjustment and as constrained by maximum absorbable imports"

These tables provide calculations of cereal import requirements and food needs in excess of normal commercial imports, resulting from consumption requirements and from estimates of cereal stock adjustments required for food security. The estimated stock increment (quantity and value) is added to import requirements, and additional food needs to support consumption, to arrive at total import requirements and additional food needs. The stock increment is shown only when it results in altered total additional food needs (i.e., when not offset by negative additional food needs for consumption). For a discussion of how stock increment estimates are calculated, see Methodological Notes.

1. Commercial import capacity--an estimate of the amount of food within each group that a country can afford to import without reducing below historical levels the share of its available foreign exchange used for nonfood imports. Countries are assumed in forecast years to spend the same proportion of available foreign exchange on commercial food imports as in the base period. The measure is sensitive to historical and projected levels of foreign exchange holdings, total merchandise imports and exports, and debt service. The measure is provided in both quantity and value, using the same country-specific estimates of unit import costs as in the import requirements estimate.

2. Additional food needs, quantity--the estimated quantity of additional food needed in each commodity group to support either the status quo or nutrition-based use level and targeted stock and feed use levels. Negative needs are shown as zero.

3. Additional food needs, value--the estimated value of additional food needed in each commodity group to maintain either status quo or nutrition-based consumption and stock and feed use levels.

Benin

In the south, widespread rains favored the planting and early development of corn, peanut, and root crops. In the north, timely rains in mid-April benefited land preparation and early planting of millet and sorghum. Adequate rainfall in June made up for dryness in May. Little change in cereal output is forecast for 1989 if the good rainfall pattern is sustained until the September-November harvest. Following an excellent harvest in 1988, Benin holds an exportable surplus of corn estimated at 30,000 tons.

Since 1986, Benin has faced a severe economic and financial crisis that has profoundly affected all sectors of activity, especially the state enterprises, the banking system, and public finances. This crisis has slowed economic growth, cut per capita income, and a worsened the domestic and external imbalances. In 1987 and 1988, Beninese authorities introduced measures to halt the deterioration in the financial situation and made structural changes essential for medium-term resumption of growth.

However, the situation has continued to deteriorate because of unfavorable weather in 1987, depressed primary commodity prices, and continued negative side effects of the Nigerian economic situation on Benin. Economic activity suffered an additional setback in 1988.

Benin's 1989/90 import requirements are estimated at 44,000 tons of wheat and 41,000 tons of rice. A relatively large share of foreign exchange is spent on major food imports, giving the country a commercial import capacity of 42,000 tons. Status quo cereal needs are 39,000 tons. Nutrition-based needs are three times as great.

Benin basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	358	0	113	466	0	131	Wheat	4.1
1982/83	347	5	96	438	0	120	Rice	3.1
1983/84	349	10	85	429	0	113	Corn	22.1
1984/85	477	15	43	500	0	128	Sorghum	4.6
1985/86	520	35	54	549	0	136	Millet	0.5
1986/87	488	60	77	555	0	132	Cassava	21.6
1987/88	388	70	80	518	0	119	Yams	13.9
1988/89	500	20	72	547	0	122	Total	69.9
1989/90	497	45						
1990/91	529	45						
Roots								
1981/82	1,241	0	0	1,241	0	350		
1982/83	1,282	0	0	1,282	0	350		
1983/84	1,200	0	0	1,200	0	317		
1984/85	1,103	0	0	1,103	0	282		
1985/86	1,485	0	0	1,485	0	367		
1986/87	1,600	0	0	1,600	0	382		
1987/88	1,405	0	0	1,405	0	324		
1988/89	1,852	0	0	1,852	0	412		
1989/90	1,625	0						
1990/91	1,675	0						

Import requirements for Benin

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	497	583	613	86	116	161
1990/91	529	605	640	76	111	153
Roots						
1989/90	1,625	1,618	1,779	(7)	154	296
1990/91	1,675	1,680	1,842	5	167	318
Cereal equivalent						
1989/90	1,135	1,218	1,312	83	177	213
1990/91	1,187	1,264	1,364	77	178	211

Financial indicators for Benin, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	148	432	10	58	138	14
1982	125	422	15	5	110	19
1983	119	262	24	4	95	26
1984	149	184	39	3	110	17
1985	182	267	41	4	141	6
1986	130	328	58	4	73	17
1987	150	330	34	4	116	13
1988	115	340	116	4	(1)	
1989	170	350	49	4	120	12
1990	180	360	52	4	127	12

Additional food needs to support consumption for Benin, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	42	12	41	12	135	39
1990/91	50	13	27	7	128	33
Stock adjustment						
1989/90			(2)	(1)	(2)	(1)
1990/91			2	0	2	0
Total						
1989/90			39	11	133	38
1990/91			29	7	130	33
Maximum absorbable						
Cereal equivalent						
1989/90			39	11	133	38
1990/91			29	7	130	33

Ghana

In the south, good rains since March have favored planting and early development of food crops. In the north, May rains allowed planting of yams; land preparation and planting of coarse grains continued through June. Following a record harvest in 1988, the overall food supply is satisfactory. As is normal during the lean season, cereal prices are rising but remain significantly lower than a year earlier. If the rainy season progresses normally, output in 1989 will decline somewhat from 1988. Corn production is expected to fall from a record 600,000 tons to 575,000.

Ghana's real GDP grew slightly faster in 1988 than in 1987. Good harvests moderated food prices although the overall inflation rate was about 30 percent. Ghana continued economic reforms in 1988 and early 1989, including privatization efforts and relaxation of government control. Ghana's economic recovery program has been one of the most consistently pursued in Africa. A large volume of international assistance has played a crucial role in this effort.

The agricultural sector, stimulated by better pricing policies and good weather in 1988, is gradually improving. The Ministry of Agriculture estimated that the sector expanded by more than 8 percent in 1988. Cocoa, the most important cash crop and foreign exchange earner, led this expansion. After a sharp fall in 1987/88, improved weather led to an impressive rebound in cocoa production. Cocoa sales are expected to jump by 100,000 tons to 290,000 in 1988/89. Some of the increased marketings are due to uncertainties about payments in the Ivory Coast which has historically offered higher prices than the Ghanaian Cocoa Board.

Ghana has an ambitious cocoa program aimed at improving roads and infrastructure, eliminating input subsidies, reducing cocoa board expenses to 15 percent of revenue from exports, and raising the producer price to 55 percent of the world market price. Unfortunately, the current low world price makes it difficult to give large increases to farmers. On June 3, 1989, the Government announced a 6-percent increase in the producer price for cocoa from 165,000 cedis ($615) to 174,400 cedis ($650) per ton.

While Ghana's assessed import requirements for 1988/89 are expected to fall below actual imports in recent years, commercial import capacity is estimated at less than 40,000 tons, whereas it was estimated at 64,000 tons 1988/89. Ghana's commercial imports estimate is low because of the current high cost of cereal imports and the very small share of foreign exchange allocated to major food imports in recent years.

Ghana basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	680	65	130	730	70	73	Wheat	4.7
1982/83	547	75	266	763	70	74	Rice	4.0
1983/84	388	55	203	591	50	54	Corn	15.4
1984/85	965	5	145	975	60	82	Sorghum	4.7
1985/86	780	80	128	873	70	73	Millet	4.0
1986/87	872	45	193	969	81	77	Cassava	23.5
1987/88	905	60	205	1,016	84	79	Cocoyams	6.4
1988/89	995	70	185	1,081	84	81	Plantains	8.0
1989/90	985	85					Total	70.7
1990/91	1,000	85						
Roots								
1981/82	3,525	0	0	3,525	0	321		
1982/83	3,843	0	0	3,843	0	343		
1983/84	2,773	0	0	2,773	0	232		
1984/85	5,425	0	0	5,425	0	430		
1985/86	4,331	0	0	4,331	0	333		
1986/87	4,470	0	0	4,470	0	330		
1987/88	4,948	0	0	4,948	0	355		
1988/89	5,200	0	0	5,200	0	362		
1989/90	5,125	0						
1990/91	5,250	0						

Import requirements for Ghana

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	985	1,146	1,436	161	451	229
1990/91	1,000	1,181	1,479	181	479	250
Roots						
1989/90	5,125	5,100	5,204	(25)	79	1,237
1990/91	5,250	5,255	5,360	5	110	1,304
Cereal equivalent						
1989/90	2,957	3,108	3,406	151	449	753
1990/91	3,018	3,202	3,507	185	489	804

Financial indicators for Ghana, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	711	954	60	146	651	7
1982	607	589	68	139	539	5
1983	439	500	111	145	328	12
1984	566	533	101	302	465	5
1985	632	669	106	479	526	3
1986	773	713	137	513	636	2
1987	827	952	173	195	654	3
1988	828	975	230	221	589	
1989	838	950	153	220	500	3
1990	850	975	156	220	499	3

Additional food needs to support consumption for Ghana, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	38	10	113	30	411	108
1990/91	42	10	143	33	447	105
Stock adjustment						
1989/90			(1)	(0)	(1)	(0)
1990/91			3	1	3	1
Total						
1989/90			112	29	410	107
1990/91			145	34	450	105
Maximum absorbable						
Cereal equivalent						
1989/90			112	29	410	107
1990/91			145	34	450	105

Guinea

Good rains in the southern areas allowed planting of rice and coarse grains to begin in May. Land preparation continued northward with June rains. The 1988 cereal harvest was somewhat below normal, but with carry-over stocks of imported rice and planned commercial imports, the food supply situation remains satisfactory. If normal rain patterns continue during the next few months, the rice harvest is expected to increase 8 percent to 325,000 tons.

The government's intense 3-year drive to introduce a market economy and to improve public sector management has led to a recovery in national economic activity. GDP grew by an estimated 5 percent in 1988. This growth stems mainly from the response of agriculture to price incentives (especially in the expansion of rice cultivation and the renewal of coffee and fruit plantations), the diversification of the mining sector, the renewal of construction activity, and the expansion of small-scale commercial enterprises.

Guinea has progressively liberalized rice trade since 1985 when the government gave up its monopoly on imports. The government continues to set a reference price for imported rice, which has caused wide swings

in availability during the last year. In August 1988, the price was set too low, causing a severe shortage in Conakry. Later, the pricing formula was revised to increase the allowed profit margin. Since then imports have exceeded normal consumption rates and stocks have risen dramatically, reaching more than 90,000 tons at the end of January. The market was slow to react to the buildup in inventories because profit margins remained high despite the fact that rice was being sold below the reference price. It is likely that these stocks will be drawn down somewhat before the end of the marketing year in September.

Guinea's import requirements for 1989/90 include 72,000 tons of wheat and 96,000 tons of rice. Historically, Guinea has allocated only 5 percent of its foreign exchange to major food imports. This gives the country a $19 million commercial import capacity, only $1 million below 1988/89. But 70,000 tons can be purchased in 1989/90, compared to 88,000 in 1988/89.

Guinea basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	334	25	99	453	0	81	Wheat	2.8
1982/83	380	5	112	477	0	84	Rice	30.9
1983/84	366	20	188	534	0	92	Corn	3.4
1984/85	376	40	137	533	0	88	Millet	3.7
1985/86	367	20	182	544	0	85	Cassava	16.0
1986/87	452	25	204	626	0	95	Total	56.8
1987/88	422	55	180	612	0	91		
1988/89	420	45	230	620	0	90		
1989/90	452	75						
1990/91	482	75						
Roots								
1981/82	485	0	0	485	0	87		
1982/83	490	0	0	490	0	86		
1983/84	494	0	0	494	0	85		
1984/85	496	0	0	496	0	82		
1985/86	500	0	0	500	0	78		
1986/87	510	0	0	510	0	78		
1987/88	520	0	0	520	0	77		
1988/89	550	0	0	550	0	80		
1989/90	570	0						
1990/91	580	0						

Import requirements for Guinea

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	452	623	803	171	351	223
1990/91	482	639	826	157	344	210
Roots						
1989/90	570	574	939	4	369	44
1990/91	580	589	963	9	383	50
Cereal equivalent						
1989/90	681	854	1,180	173	499	215
1990/91	715	876	1,213	161	498	204

Financial indicators for Guinea, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	493	426	82	68	411	8
1982	444	378	78	108	366	5
1983	502	366	67	104	434	5
1984	510	407	117	95	393	9
1985	513	377	66	89	447	4
1986	555	451	71	91	484	3
1987	584	468	111	54	473	7
1988	575	450	162	55	413	
1989	600	475	101	55	475	5
1990	600	475	101	55	475	5

Additional food needs to support consumption for Guinea, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	71	19	102	28	428	116
1990/91	80	19	81	20	418	101
Stock adjustment						
1989/90			1	0	1	0
1990/91			2	0	2	0
Total						
1989/90			103	28	429	116
1990/91			83	20	420	101
Maximum absorbable						
Cereal equivalent						
1989/90			103	28	145	39
1990/91			83	20	126	30

Guinea-Bissau

Following four successive good harvests, the food supply situation in Guinea-Bissau is satisfactory. The country is self-sufficient in coarse grains, but has to import rice and wheat to meet urban consumption needs. Rice production fell slightly in 1988 to 97,000 tons because of a late rainy season. A small increase in production is forecast for 1989, assuming that rainfall is adequate through October. Rice output has almost doubled since 1983.

Beginning in 1986, the government adopted measures to improve economic growth. Since then food subsidies have been progressively reduced. The overall rice price is above the import parity level and the government has eliminated the subsidy to civil servants. The minimum producer prices for cashews, rice, and peanuts for the 1988/89 crop were increased by 60 percent, 70 percent, and 100 percent, respectively.

Higher producer prices and the strong response of the private sector to the trade liberalization measures have resulted in impressive gains in agricultural production and exports. Export revenues, mainly from cashews, peanuts, and palm kernels, were expected to double from 1986. Merchandise exports account for less than a third of total

foreign exchange earnings. The remainder comes from official transfers and concessional loans.

Another good rice crop will reduce Guinea-Bissau's import requirements to about 15,000 tons for 1989/90. Wheat imports of about 8,000 tons annually are not calculated in this analysis. The relatively large share of foreign exchange allocated to food imports will allow the county to import commercially all of its needs.

Guinea-Bissau basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	99	10	34	133	0	165	Rice	38.1
1982/83	119	10	51	172	0	208	Corn	7.2
1983/84	106	8	24	135	0	160	Millet & sorghum	3.2
1984/85	115	3	43	161	0	186	All roots	8.3
1985/86	135	0	28	163	0	184	Total	56.8
1986/87	161	0	22	183	0	202		
1987/88	181	0	23	204	0	220		
1988/89	177	0	20	197	0	207		
1989/90	177	0						
1990/91	179	0						
Roots								
1981/82	40	0	0	40	0	50		
1982/83	40	0	0	40	0	48		
1983/84	35	0	0	35	0	41		
1984/85	40	0	0	40	0	46		
1985/86	45	0	0	45	0	51		
1986/87	40	0	0	40	0	44		
1987/88	40	0	0	40	0	43		
1988/89	42	0	0	42	0	44		
1989/90	43	0						
1990/91	45	0						

Import requirements for Guinea-Bissau

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	177	190	174	13	(3)	47
1990/91	179	194	178	15	(1)	50
Roots						
1989/90	43	45	55	2	12	6
1990/91	45	46	56	1	11	6
Cereal equivalent						
1989/90	194	207	195	14	1	47
1990/91	196	212	200	16	4	50

Financial indicators for Guinea-Bissau, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	33	57	4	15	29	21
1982	46	81	3	8	43	1
1983	41	70	2	4	39	1
1984	42	78	4	3	38	3
1985	39	77	5	3	33	11
1986	52	74	9	2	42	11
1987	59	74	9	12	50	13
1988	62	84	28	13	34	
1989	62	85	9	13	58	12
1990	62	85	9	13	58	12

Additional food needs to support consumption for Guinea-Bissau, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	14	5	0	0	0	0
1990/91	16	5	0	0	0	0
Stock adjustment						
1989/90			5	2	5	2
1990/91			0	0	0	0
Total						
1989/90			4	2	0	0
1990/91			0	0	0	0
Maximum absorbable						
Cereal equivalent						
1989/90			4	2	0	0
1990/91			0	0	0	0

Liberia

Adequate rain since March has benefited planting and early development of rice, the staple crop. Milled rice production increased marginally in 1988, reflecting an expansion of area harvested due to rural population growth and the government's Green Revolution Plan. Almost all area increases are in upland rice. Swamp rice production prospects are limited because of problems in maintaining proper water levels in the fields.

Liberia's large foreign concessions are playing an increasingly important role in rice imports. Traditionally, the concessions imported rice for their workers. During 1988, the leading rubber concession began importing rice in excess of its needs at the request of the government. To purchase this rice, the concession is using a portion of the foreign exchange it would ordinarily have to surrender to the government. The economic recovery and expansion of the rubber industry are expected to provide the financial resources to increase imports in 1989.

Liberia has an open and loosely regulated economy with a resilient and flexible private sector. The main problems facing the Liberian economy stem from weaknesses in government fiscal and monetary operations. Last year (1988) was perhaps the best in a

decade for Liberia's economy. A resurgence of the rubber industry was primarily responsible for the turnaround, but logging and higher-than-expected iron ore exports also supported economic expansion. One dark cloud on the horizon is the closing of the LAMCO iron ore mining concession in mid-1989 because of the exhaustion of its high-grade ore deposits. The closure may reduce Liberia's foreign exchange earnings by 5 to 10 percent.

Persistent budget deficits and capital flight have placed a heavy strain on the Liberian monetary system. While the U.S. dollar is the official currency set at par with the Liberian dollar, U.S. notes have disappeared from circulation and the Government has minted Liberian 5 dollar coins to meet payroll and vendor arrears. A significant share of Liberia's foreign exchange is traded in a parallel market at a rate of L$2.1 = U.S. $1.

Liberia's 1989/90 import requirements are estimated at 145,000 tons, including 123,000 tons of rice. High world grain prices limit Liberia's commercial import capacity to about 50,000 tons, resulting in a status quo need of 95,000 tons in 1989/90.

Liberia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	159	15	116	275	0	140	Wheat	2.9
1982/83	153	15	107	265	0	131	Rice	44.5
1983/84	177	10	104	271	0	130	Cassava	20.5
1984/85	182	20	113	280	0	130	Total	67.9
1985/86	176	35	124	300	0	134		
1986/87	174	35	116	295	0	128		
1987/88	173	30	105	303	0	127		
1988/89	180	5	125	300	0	122		
1989/90	185	10						
1990/91	190	10						
Roots								
1981/82	315	0	0	315	0	161		
1982/83	320	0	0	320	0	158		
1983/84	320	0	0	320	0	153		
1984/85	320	0	0	320	0	148		
1985/86	320	0	0	320	0	143		
1986/87	325	0	0	325	0	141		
1987/88	335	0	0	335	0	141		
1988/89	340	0	0	340	0	138		
1989/90	365	0						
1990/91	375	0						

Import requirements for Liberia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	185	330	301	145	116	197
1990/91	190	341	311	151	121	204
Roots						
1989/90	365	364	429	(1)	64	44
1990/91	375	376	443	1	68	47
Cereal equivalent						
1989/90	312	457	450	145	138	212
1990/91	321	472	465	151	145	220

Financial indicators for Liberia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	529	424	27	8	502	8
1982	477	390	34	6	443	7
1983	421	375	30	20	391	8
1984	447	325	22	3	425	7
1985	430	264	18	2	412	4
1986	408	259	30	3	378	11
1987	375	312	11	1	364	6
1988	425	325	115	1	310	
1989	430	320	21	1	408	7
1990	440	325	21	1	417	7

Additional food needs to support consumption for Liberia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	49	24	95	46	89	43
1990/91	57	24	95	41	88	38
Stock adjustment						
1989/90			11	5	11	5
1990/91			8	3	8	3
Total						
1989/90			106	51	100	48
1990/91			102	44	96	41
Maximum absorbable						
Cereal equivalent						
1989/90			106	51	100	48
1990/91			102	44	96	41

Sierra Leone

The timely onset of rains has favored plantings and early crop development in most areas. The aggregate output of cereals, including 300,000 tons of rice, was below average, reflecting localized flood damage to rice in 1988. This shortfall has been met by imported rice and increased consumption of root crops. A good start to the rainy season bodes well for the harvest in late 1989.

Agriculture is the most important sector of the economy, contributing 40 percent of GDP and employing 65 percent of the labor force. The most important cash crops are cocoa, coffee, and oil palm products, with rice the major food crop. As of August 1988, the Sierra Leone Produce Marketing Board was relieved of its responsibility for importing and marketing rice. Rice imports are now handled through private channels. The government has abandoned its attempt to control retail rice prices by providing large subsidies. The official price was 750 Leones per 50 kilo bag in Freetown, but most rice was sold at double that amount (37 Leones = $1).

Sierra Leone's economy continued to deteriorate in 1988. Inflation rose to over 200 percent while real GNP fell. Both the IMF and the World Bank have suspended new lending because of the government's failure to pay debts. The government has instituted new economic reforms aimed at breaking the deadlock with the IMF and opening the way to financial inflows, including a structural adjustment loan from the World Bank.

Sierra Leone's import requirements are 43,000 tons of wheat and 107,000 of rice. High world grain prices and the country's financial constraints limit commercial import capacity to 55,000 tons.

Sierra Leone basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals							Wheat	2.8
1981/82	334	0	126	460	0	136	Rice	47.5
1982/83	314	0	57	371	0	107	Cassava	4.2
1983/84	314	0	60	374	0	106	Total	54.5
1984/85	276	0	122	398	0	110		
1985/86	303	0	119	422	0	114		
1986/87	315	0	148	463	0	123		
1987/88	326	0	130	456	0	118		
1988/89	300	0	145	445	0	112		
1989/90	325	0						
1990/91	330	0						
Roots								
1981/82	97	0	0	97	0	29		
1982/83	100	0	0	100	0	29		
1983/84	105	0	0	105	0	30		
1984/85	100	0	0	100	0	28		
1985/86	110	0	0	110	0	30		
1986/87	112	0	0	112	0	30		
1987/88	116	0	0	116	0	30		
1988/89	120	0	0	120	0	30		
1989/90	130	0						
1990/91	140	0						

Import requirements for Sierra Leone

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	325	475	471	150	146	228
1990/91	330	487	483	157	153	237
Roots						
1989/90	130	122	707	(8)	577	(7)
1990/91	140	125	725	(15)	585	(14)
Cereal equivalent						
1989/90	378	524	760	146	382	222
1990/91	387	538	779	151	392	228

Financial indicators for Sierra Leone, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	153	282	43	16	109	19
1982	110	260	11	8	99	36
1983	107	133	10	16	97	16
1984	133	150	19	8	114	8
1985	132	141	10	11	122	15
1986	126	111	15	14	112	24
1987	110	120	5	6	105	25
1988	120	120	29	7	92	
1989	125	125	12	7	111	21
1990	125	125	12	7	111	21

Additional food needs to support consumption for Sierra Leone, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	55	22	91	37	327	132
1990/91	61	22	89	32	330	119
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			91	37	327	132
1990/91			89	32	330	119
Maximum absorbable						
Cereal equivalent						
1989/90			91	37	167	67
1990/91			89	32	167	60

Togo

The rainy season has progressed normally since April in Togo, favoring development of corn and root crops in the southern and central regions and planting of coarse grains in the north. Following a good cereal harvest in 1988, the overall food situation is satisfactory, but some redistribution of surplus corn from the south to deficit areas in the north is needed. The country holds an exportable surplus of about 30,000 tons of corn. While the current growing season began with adequate rainfall, it is too early to predict accurately the size of the September-November harvest. This year's corn crop is forecast down from 1988's record of 235,000 tons. On the other hand, output of sorghum and millet is likely to improve from the poor 1988 harvest of 115,000 tons. Togo will need to import about 60,000 tons of wheat and 20,000 tons of rice in 1989/90 to maintain per capita consumption.

During 1988, Togolese authorities implemented a broad range of measures to restore financial stability and accelerate growth in real output. Togo's economic and financial situation improved markedly. Real GDP rose 4 percent, more than double 1987's growth rate, because of increased agricultural output and phosphate production.

Togo's external position also improved in 1988. The recovery was due to higher revenues from phosphate exports (36 percent of the total), reflecting a higher world price and a resurgence in export volume. This strong performance was sufficient to offset mixed results for three major agricultural exports. The export unit value of cotton (12 percent of total exports) improved substantially, while prices fell for coffee and cocoa.

Togo's commercial import capacity for 1989/90 is less than half of the previous year because of higher prices for imported grains and a projected rise in debt service payments. Assessed status quo needs are 24,000 tons greater than in 1988/89.

Togo basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	280	0	61	331	0	124	Wheat	3.9
1982/83	298	10	80	373	0	135	Rice	4.2
1983/84	283	15	73	361	0	127	Corn	19.3
1984/85	429	10	62	461	0	157	Millet & sorghum	11.4
1985/86	361	40	64	430	0	142	Cassava	17.5
1986/87	352	35	86	443	0	142	Yams	18.0
1987/88	353	30	85	438	0	136	Total	74.3
1988/89	368	30	80	438	0	131		
1989/90	393	40						
1990/91	405	40						
Roots								
1981/82	900	0	0	900	0	337		
1982/83	839	0	0	839	0	304		
1983/84	728	0	0	728	0	256		
1984/85	786	0	0	786	0	268		
1985/86	838	0	0	838	0	277		
1986/87	830	0	0	830	0	266		
1987/88	715	0	0	715	0	221		
1988/89	918	0	0	918	0	275		
1989/90	945	0						
1990/91	975	0						

Import requirements for Togo

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	393	475	483	82	90	149
1990/91	405	491	500	86	95	155
Roots						
1989/90	945	967	1,206	22	261	216
1990/91	975	1,000	1,247	25	272	225
Cereal equivalent						
1989/90	727	816	912	89	185	139
1990/91	750	844	943	94	193	146

Financial indicators for Togo, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	378	414	46	152	332	5
1982	345	408	43	168	302	4
1983	274	292	49	173	225	9
1984	291	263	77	203	214	8
1985	282	304	91	297	191	8
1986	273	355	133	333	140	8
1987	298	362	63	355	235	5
1988	309	359	145	232	164	
1989	310	360	100	250	143	7
1990	325	375	105	250	140	7

Additional food needs to support consumption for Togo, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	30	9	59	17	154	45
1990/91	33	9	61	16	160	42
Stock adjustment						
1989/90			3	1	3	1
1990/91			1	0	1	0
Total						
1989/90			62	18	157	46
1990/91			63	16	161	42
Maximum absorbable						
Cereal equivalent						
1989/90			62	18	112	33
1990/91			63	16	114	30

Angola

Angola's total 1989/90 cereal production is 305,000 tons, down from last year due to drought in the central and southern areas. Maize crops in Huila Province, the major growing area, were below normal. Root crop yields may be down in the north due to excessive rains.

Several changes in Angola indicate that the economy may be recovering. There are signs of resolution of the conflict between the MPLA government and Unita rebels. Since 1987, Angola has had an austerity program. The country's entry into the IMF is slated for September 1989. An upswing in prices and increased production raised oil revenue to $2.1 billion last year, and another rise is expected in 1989. In the short term, however, Angola's commercial import capacity is constrained by high military expenditures and external debt, which stood at 70% of GDP in 1986. Food production will continue to be depressed until availability of farm inputs is improved and marketing channels are no longer disrupted. Total status quo import requirements for 1989/90 are estimated at 506,000 tons. With commercial import capacity estimated at 140,000 tons, additional food needs for 1989/90 are 365,000 tons.

Angola basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals							Wheat	7.7
1981/82	260	0	276	536	0	77	Rice	2.8
1982/83	259	0	332	591	0	83	Corn	20.0
1983/84	284	0	322	606	0	83	Cassava	28.2
1984/85	268	0	446	714	0	96	Total	58.7
1985/86	258	0	330	588	0	78		
1986/87	286	0	415	701	0	91		
1987/88	306	0	436	742	0	93		
1988/89	365	0	425	790	0	96		
1989/90	305	0						
1990/91	365	0						
Roots								
1981/82	1,850	0	0	1,850	0	266		
1982/83	1,900	0	0	1,900	0	267		
1983/84	1,925	0	0	1,925	0	265		
1984/85	1,900	0	0	1,900	0	256		
1985/86	1,925	0	0	1,925	0	254		
1986/87	1,950	0	0	1,950	0	252		
1987/88	1,950	0	0	1,950	0	245		
1988/89	1,950	0	0	1,950	0	237		
1988/89	1,975	0						
1990/91	1,975	0						

Import requirements for Angola

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	305	775	722	470	417	517
1990/91	365	800	750	435	385	483
Roots						
1989/90	1,975	2,067	2,157	92	182	304
1990/91	1,975	2,132	2,218	157	243	375
Cereal equivalent						
1989/90	1,059	1,565	1,546	506	486	598
1990/91	1,119	1,614	1,597	495	477	590

Financial indicators for Angola, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	1,662	1,584	0	122	1,662	14
1982	1,558	1,000	361	105	1,197	9
1983	1,771	767	335	111	1,436	7
1984	2,055	1,034	421	150	1,634	7
1985	2,211	1,346	437	200	1,774	7
1986	1,787	1,080	411	150	1,376	4
1987	1,800	1,100	378	200	1,422	4
1988	2,100	1,100	300	250	1,800	
1989	2,300	1,100	484	275	1,900	5
1990	2,300	1,100	484	275	1,900	5

Additional food needs to support consumption for Angola, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	140	26	365	67	346	64
1990/91	157	26	338	55	320	53
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			365	67	346	64
1990/91			338	55	320	53
Maximum absorbable						
Cereal equivalent						
1989/90			365	67	346	64
1990/91			338	55	320	53

Lesotho

Excessive rain, cool weather, and pests have significantly reduced crop output in Lesotho for 1989/90. Heavy rains disrupted and delayed the planting season. The wet conditions prompted an outbreak of cutworm, which necessitated the replanting of already late planted corn and sorghum crops. Cool conditions increased the time required for the crops to mature. The combination of wet and cool weather caused frost damage in some areas. Consequently, yields for corn and sorghum are estimated to be near those of the drought years of the early 1980's. Corn production is less than half of last year's bumper crop.

These conditions have led to higher-than-normal import requirements--estimated at 221,000 tons for 1989/90, compared with about 150,000 the last few years. Corn imports account for almost half of these requirements. With commercial import capacity of 68,000 tons, additional food needs are estimated at 153,000 tons.

Lesotho basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	171	0	137	289	19	223	Wheat	23.1
1982/83	123	0	118	222	19	170	Corn	41.3
1983/84	122	0	120	223	19	166	Sorghum	11.4
1984/85	118	0	150	249	19	179	Total	75.9
1985/86	167	0	140	293	14	200		
1986/87	134	0	200	313	21	212		
1987/88	213	0	123	316	20	207		
1988/89	212	0	153	345	20	219		
1989/90	120	0						
1990/91	165	0						

Import requirements for Lesotho

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	120	341	397	221	277	261
1990/91	165	350	416	185	251	226

Financial indicators for Lesotho, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	382	513	4	43	378	5
1982	425	509	9	48	416	5
1983	454	546	21	67	433	8
1984	396	489	21	49	375	5
1985	282	358	18	41	264	7
1986	314	399	14	60	300	7
1987	404	519	15	68	389	3
1988	415	514	15	56	400	
1989	420	514	21	56	391	6
1990	420	514	21	56	391	6

Additional food needs to support consumption for Lesotho, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	68	15	153	34	209	47
1990/91	76	15	109	22	175	35
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			153	34	209	47
1990/91			109	22	175	35
Maximum absorbable						
Cereal equivalent						
1989/90			153	34	193	43
1990/91			109	22	150	30

Madagascar

Madagascar's recently completed rice harvest is expected to equal the 1987/88 record level of 1.5 million tons (milled). Corn output should be near the recent high levels of 160,000 tons. As a result, import requirements are estimated at 257,000 tons.

The reforms undertaken since the early 1980's to open the economy have recently begun to induce change. The International Monetary Fund approved a 3-year arrangement to increase real per capita incomes while achieving financial stabilization. Goals for 1989 include an increase in economic growth from less than 2 percent in 1988 to 4.5 percent and a reduction In inflation from 17 to 12 percent.

Commercial import capacity, estimated at 100,000 tons, is limited by the large debt service burden and slow demand growth for traditional exports. Earnings from coffee exports are expected to remain stagnant because of flat levels of world consumption and aging coffee trees. Earnings from vanilla and cloves are constrained by the increase in suppliers on the world market. Considering a small stock buildup, 1989/90 additional food needs are estimated at 166,000 tons.

Madagascar basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	1,408	0	413	1,771	0	198	Wheat	1.9
1982/83	1,460	50	231	1,701	0	185	Rice	54.4
1983/84	1,506	40	142	1,668	0	176	Corn	3.9
1984/85	1,505	20	159	1,674	0	171	Total	60.3
1985/86	1,534	10	150	1,684	0	167		
1986/87	1,580	10	208	1,738	0	167		
1987/88	1,619	60	146	1,780	0	166		
1988/89	1,487	45	117	1,604	0	145		
1989/90	1,660	45						
1990/91	1,670	45						

Import requirements for Madagascar

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	1,660	1,917	1,969	257	309	616
1990/91	1,670	1,980	2,024	310	354	680

Financial indicators for Madagascar, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	332	511	62	27	270	27
1982	333	450	69	20	264	30
1983	307	390	46	29	261	22
1984	330	355	44	59	286	8
1985	280	336	101	48	179	18
1986	331	332	112	115	219	8
1987	332	368	147	185	185	9
1988	373	390	147	224	226	
1989	385	380	123	224	334	12
1990	400	370	127	224	348	12

Additional food needs to support consumption for Madagascar, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	100	30	157	47	209	62
1990/91	117	31	193	51	237	63
Stock adjustment						
1989/90			9	3	9	3
1990/91			2	0	2	0
Total						
1989/90			166	49	217	65
1990/91			194	52	239	64
Maximum absorbable						
Cereal equivalent						
1989/90			166	49	217	65
1990/91			194	52	239	64

Malawi

The 1989/90 corn crop is estimated to be near the recent average of 1.3 million tons. Earlier in the year, it was expected that output would exceed the average, but heavy rains late in the growing season reduced yields. As a result, the import requirements are estimated at 221,000 tons.

Malawi's Statement of Development Policies, 1987-96, emphasizes private sector involvement in economic production. For agriculture, the focus will be on the development of technologies with a particular emphasis on corn production, improvement of research extension services, expansion of credit accessibility, and expansion of smallholders' access to inputs. To encourage diversification and increase output, the government plans to maintain incentives by setting producer prices based on market conditions.

World prices for Malawi's main export crops, tobacco, tea, and sugar, have trended upward in the last 2 years. Tobacco earnings reached record levels in 1988. Exports, however, face severe transportation difficulties due to the closure of rail links in Mozambique. This has forced Malawi to export through South Africa and Tanzania, which has been costly.

Commercial import capacity is estimated at an extremely low level of 9,000 tons. There is a projected stock buildup of 105,000 tons. Additional food needs for 1989/90 are estimated at 317,000 tons, up 10,000 from last year.

Malawi basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	1,245	100	50	1,195	50	201	Wheat	0.9
1982/83	1,415	150	(5)	1,237	60	203	Corn	64.4
1983/84	1,370	263	(76)	1,221	30	190	Total	65.3
1984/85	1,401	306	(99)	1,241	30	188		
1985/86	1,356	337	(30)	1,404	35	206		
1986/87	1,295	224	45	1,373	35	195		
1987/88	1,226	156	130	1,382	30	190		
1988/89	1,301	100	135	1,406	30	187		
1989/90	1,301	100						
1990/91	1,351	100						

Import requirements for Malawi

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	1,301	1,522	1,640	221	339	570
1990/91	1,351	1,573	1,695	222	344	575

Financial indicators for Malawi, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	273	300	89	49	185	12
1982	240	272	63	23	177	7
1983	246	242	59	15	187	7
1984	312	221	73	57	239	4
1985	250	198	82	45	168	7
1986	248	154	111	25	137	3
1987	279	178	71	52	208	0
1988	300	180	71	146	229	
1989	320	200	101	145	288	3
1990	320	200	101	145	288	3

Additional food needs to support consumption for Malawi, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	9	4	212	84	330	130
1990/91	10	4	212	75	334	118
Stock adjustment						
1989/90			105	42	105	42
1990/91			75	27	75	27
Total						
1989/90			317	125	435	172
1990/91			287	101	410	145
Maximum absorbable						
Cereal equivalent						
1989/90			317	125	435	172
1990/91			287	101	410	145

Mozambique

The 1989/90 coarse grain harvest in Mozambique is mixed. Below normal production resulted from severe drought in the southern provinces, especially Gaza and Inhambane, and continued disruption of the farming and marketing of foodstuffs nationwide by civil strife. Good yields are expected in the northern province of Cabo Delgado, and an average crop in the central provinces. The food supply has been described as "grave", with malnutrition, starvation, and loss of life, especially in Nampula and Cabo Delgado. In Zambesia province, the food supply is further stressed by the influx of displaced people. Total cereal production is estimated at 432,000 tons for 1989/90. Cassava planting has increased relative to other crops. The crop can be stored in-ground, offering higher security against theft or destruction from insurrectionists. Production of beans and peanuts has also declined.

Status quo import requirements are estimated at 668,000 tons for 1989/90. Commercial import capacity is 11,000 tons, leaving additional food needs at 657,000 tons. Nutrition-based additional food needs are near triple the status quo needs, at 1.8 million tons, indicating that nutritional status is at dangerously low levels.

Since 1987, Mozambique has had an Economic Reform Program which centers on wage restraint, consumer subsidy reductions, and currency devaluation. Producer prices have been increased to encourage production. As a result, prices are more closely approaching border prices. An increase in rural incomes is expected, but in the short to medium-term urban areas will be adversely affected by these policy changes, especially the urban poor. Prices of consumer goods, including basic foods provided under a ration system, and loss of income due to unemployment in the civil service and public enterprise is sharply reducing the urban purchasing power. Inflows of repatriated mineworkers from South Africa, and displaced populations from insecure areas have put further pressure on food supplies in the urban areas. Several measures have been taken to curtail the negative effects of policy changes in the urban areas. The ration system has been maintained in both Maputo and Beira, and a review of the minimum wage to determine if it should be adjusted is forthcoming. Programs such as the Food Bank, a labor intensive public works program for the unemployed, and increased school feeding, are expected to help alleviate strife.

Despite efforts in policy reform, Mozambique still faces major economic constraints. Agricultural exports are Mozambique's major source of foreign exchange. Exports of cashew nuts, tea, and prawns have been declining since 1982. Until the constraints to production caused by civil strife are removed, farmers may not be able to increase production, regardless of price incentives. Debt rescheduling agreements were reached in 1987 with both the London Club and the Paris Club covering end-1986 arrears, (US$711 million), and 1987-88 maturities. In order to finance the Economic Reform Program, Mozambique will seek further debt relief agreements and limit new loans on nonconcessional terms.

Mozambique basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	605	0	365	970	0	78	Wheat	6.3
1982/83	570	0	383	953	0	75	Rice	6.0
1983/84	372	0	463	835	0	64	Corn	15.8
1984/85	429	0	527	956	0	71	Sorghum	5.7
1985/86	513	0	560	1,073	0	78	Millet	0.2
1986/87	486	0	405	891	0	63	Cassava	38.4
1987/88	388	0	567	955	0	66	Total	72.4
1988/89	397	0	605	1,002	0	67		
1989/90	432	0						
1990/91	432	0						
Roots								
1981/82	2,850	0	0	2,850	0	229		
1982/83	2,900	0	0	2,900	0	227		
1983/84	2,300	0	0	2,300	0	176		
1984/85	2,600	0	0	2,600	0	194		
1985/86	2,800	0	0	2,800	0	203		
1986/87	2,900	0	0	2,900	0	205		
1987/88	2,900	0	0	2,900	0	200		
1988/89	2,900	0	0	2,900	0	194		
1989/90	3,000	0						
1990/91	3,000	0						

Import requirements for Mozambique

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	432	1,051	1,459	619	1,027	768
1990/91	432	1,082	1,501	650	1,069	804
Roots						
1989/90	3,000	3,120	4,893	120	1,893	526
1990/91	3,000	3,213	5,034	213	2,034	630
Cereal equivalent						
1989/90	1,635	2,303	3,422	668	1,787	979
1990/91	1,635	2,371	3,520	736	1,885	1,056

Financial indicators for Mozambique, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	452	918	214	206	238	20
1982	394	971	226	71	168	19
1983	292	797	174	60	118	26
1984	214	690	94	69	120	27
1985	184	624	36	14	148	24
1986	198	820	490	72	(292)	(9)
1987	234	910	60	148	174	25
1988	244	1,034	133	176	111	0
1989	283	1,240	238	181	76	13
1990	304	1,313	256	196	85	13

Additional food needs to support consumption for Mozambique, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	10	2	657	151	1,776	409
1990/91	13	3	722	148	1,872	384
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			657	151	1,776	409
1990/91			722	148	1,872	384
Maximum absorbable						
Cereal equivalent						
1989/90			657	151	969	223
1990/91			722	148	1,043	214

Swaziland

Extremely wet conditions in Swaziland this year will result in an above average harvest for maize, the major food crop. Total cereal production is estimated at 92,000 tons. Estimated status quo total import requirements are 58,000 tons. Swaziland's main export earning crop is sugar. In 1986 the sugar crop was outstanding, with a growth of approximately 9 percent. Since 1987, the economy has slowed slightly, and the extreme wet conditions this year should hamper sugar output, constraining exports. Fortunately, Swaziland's external government debt levels are low, and financing them is manageable. Commercial import capacity for cereals in 1989/90 is estimated at 37,000 tons, leaving 21,000 tons still needed. Additional need for milk is estimated at 5,000 tons.

Swaziland basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	95	0	59	104	50	256	Corn	50.1
1982/83	53	0	69	87	35	198	Sorghum	0.7
1983/84	52	0	67	84	35	187	Milk	4.5
1984/85	112	0	27	109	30	212	Total	55.3
1985/86	86	0	41	97	30	188		
1986/87	96	0	45	107	34	203		
1987/88	88	0	49	100	37	192		
1988/89	82	0	49	94	37	178		
1989/90	92	0						
1990/91	92	0						
Milk (whole)								
1981/82	37	0	7	44	0	73		
1982/83	37	0	4	41	0	66		
1983/84	38	0	5	43	0	68		
1984/85	38	0	5	43	0	66		
1985/86	38	0	5	43	0	64		
1986/87	39	0	5	44	0	63		
1987/88	39	0	5	44	0	62		
1988/89	39	0	5	44	0	60		
1989/90	40	0						
1990/91	40	0						

Import requirements for Swaziland

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	92	150	143	58	51	102
1990/91	92	155	147	63	55	108
Milk (whole)						
1989/90	40	48	54	8	14	15
1990/91	40	49	55	9	15	17

Financial indicators for Swaziland, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available Total	Foreign exchange available Share to major food imports
	$ million					Percent
1981	388	502	16	96	372	3
1982	324	438	18	76	306	3
1983	304	464	18	93	286	2
1984	231	371	17	80	214	7
1985	177	277	23	83	153	5
1986	278	305	25	96	253	3
1987	391	370	30	127	361	2
1988	379	378	31	140	348	
1989	380	375	35	140	359	3
1990	380	375	35	140	359	3

Additional food needs to support consumption for Swaziland, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	37	8	21	5	0	0
1990/91	41	8	21	4	0	0
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			21	5	0	0
1990/91			21	4	0	0
Milk						
1989/90	3	4	5	7	0	0
1990/91	3	4	7	9	0	0
Total						
1989/90		12		12		0
1990/91		12		13		0
Maximum absorbable						
Cereal equivalent						
1989/90			21	5	0	0
1990/91			21	4	0	0
Milk						
1989/90			5	7	0	0
1990/91			7	9	0	0
Total						
1989/90				12		0
1990/91				13		0

Zambia

Zambia is harvesting an excellent maize crop, 1.5 million tons. Due to last year's bumper crop of 1.8 million tons, carryover stocks as of June 1989 were at record levels, about 300,000 tons. However, stocks in provincial holding depots were damaged by rains, with an estimated loss of 90,000 tons. Area planted to both maize and wheat is expanding as Zambia continues to liberalize farm-gate marketing, increasing producer prices. Shortages of top dressing for maize, however, will lower yields this year. NAMBOARD, previously the state marketing board for most crops, is no longer involved in crop marketing, except to monitor the strategic reserve and imports. Most crops are now sold to cooperatives or parastatals, who are able to offer market-oriented prices.

The cost of cornmeal and vegetable oil subsidies for urban consumers continues to burden the government budget. A coupon system for cornmeal was initiated this year, but the cost is expected to be as high or higher than previous subsidy programs. Shortages continue to be a problem due to the profitable black market for these commodities in Zaire. The government of Zambia has announced its intent to eliminate all subsidies by 1993.

Although Zambia is self-sufficient in maize, approximately 50,000 tons of wheat and rice will need to be imported in 1989/90. Zambia has the commercial import capacity to do this, leaving no additional food needs for 1989/90. Donors are scaling back wheat programs because Zambia intends to rely on domestic production and end all commercial imports. Producer prices for wheat have increased, and millers are now allowed to negotiate prices with the National Milling Corporation. Currently, prices are approximately 50 percent above the floor of 225 kwacha per 90 kg. bag. Zambia expects to increase area planted to wheat on commercial farms, with a targeted production of 100,000 tons by 1993.

Despite reforms and growth in the agricultural sector, Zambia continues to be plagued with economic problems. Export

earnings are still heavily dependent on the copper sector, and debt financing continues to constrain overall growth.

Zambia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals							Wheat	9.3
1981/82	1,023	22	220	1,199	30	211	Rice	0.5
1982/83	752	36	248	969	40	167	Corn	57.1
1983/84	962	27	205	1,135	35	186	Total	67.0
1984/85	888	24	154	1,007	39	160		
1985/86	1,149	20	152	1,172	39	179		
1986/87	1,302	110	179	1,295	39	190		
1987/88	1,002	257	195	1,316	34	185		
1988/89	1,346	104	59	1,713	34	232		
1989/90	1,553	262						
1990/91	1,555	262						

Import requirements for Zambia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	1,553	1,449	1,892	(104)	339	258
1990/91	1,555	1,502	1,951	(53)	396	323

Financial indicators for Zambia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available Total	Foreign exchange available Share to major food imports
	$ million					Percent
1981	996	1,065	294	56	702	4
1982	942	1,004	176	58	766	5
1983	923	711	125	55	798	4
1984	893	612	114	54	779	4
1985	797	571	95	200	702	4
1986	692	518	140	70	552	2
1987	848	585	129	109	719	1
1988	996	836	130	138	866	
1989	910	810	137	140	746	3
1990	969	852	146	140	788	3

Additional food needs to support consumption for Zambia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	43	9	0	0	296	62
1990/91	51	9	0	0	345	64
Stock adjustment						
1989/90			(45)	(9)	(45)	(9)
1990/91			8	1	8	1
Total						
1989/90			0	0	252	52
1990/91			0	0	353	66
Maximum absorbable						
Cereal equivalent						
1989/90			0	0	170	36
1990/91			0	0	280	52

Zimbabwe

Zimbabwe's total cereal production is estimated at 2.4 million tons for 1989/90, down from last year's harvest, but near average. Corn, the major crop, has an estimated production of 1.927 million tons. Production is sufficient to meet demand, and Zimbabwe will again be in a position to export to food deficit countries in the region. Exports of corn are expected to reach 450,000 tons, and Zimbabwe will likely seek triangular trade agreements for wheat imports. The government is encouraging wheat production by increasing producer prices, up 10.6 percent between market years 1987/88 and 1988/89, but wheat imports of approximately 80,000 tons will be needed to meet demand. Zimbabwe's additional food needs are zero for 1989/90. Commercial import capacity is estimated at 60,000 tons.

Zimbabwe basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	3,253	292	(288)	1,575	350	254	Wheat	8.8
1982/83	2,196	1,333	(464)	1,524	350	240	Corn	45.4
1983/84	1,160	1,190	(187)	1,660	300	242	Sorghum	2.6
1984/85	1,695	203	379	1,428	310	207	Millet	6.3
1985/86	3,460	539	(212)	1,809	325	245	Total	63.2
1986/87	3,001	1,653	(427)	1,768	300	229		
1987/88	1,600	2,158	(307)	2,092	400	266		
1988/89	2,555	959	(363)	1,757	400	222		
1989/90	2,424	994						
1990/91	2,610	994						

Import requirements for Zimbabwe

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	2,424	2,367	2,743	(57)	319	1,426
1990/91	2,610	2,456	2,865	(154)	255	1,341

Financial indicators for Zimbabwe, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	1,451	1,534	70	170	1,381	1
1982	1,312	1,472	140	140	1,173	1
1983	1,154	1,070	441	75	713	2
1984	1,174	989	272	45	902	5
1985	1,120	919	307	93	812	4
1986	1,323	1,012	339	106	984	0
1987	1,452	1,071	383	166	1,069	1
1988	1,300	1,100	390	179	910	
1989	1,375	1,150	353	128	998	2
1990	1,400	1,150	359	140	1,028	2

Additional food needs to support consumption for Zimbabwe, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	60	13	0	0	259	56
1990/91	69	13	0	0	186	36
Stock adjustment						
1989/90			0	0	(319)	(69)
1990/91			0	0	(26)	(5)
Total						
1989/90			0	0	0	0
1990/91			0	0	160	31
Maximum absorbable						
Cereal equivalent						
1989/90			0	0	0	0
1990/91			0	0	160	31

Central African Republic

The food supply in the Central African Republic is good because cereal production in 1989/90 is expected to be near last year's record crop of 135,000 tons. Rains early in the growing season benefited the corn crop in the south. Import requirements (cereal equivalent) are estimated at 47,000 tons, mostly wheat.

The Central Africa Republic's major agricultural exports, cotton, coffee, and timber, suffer from depressed world prices. Commercial import capacity is 18,000 tons. Additional food needs for 1989/90 are estimated at 29,000 tons.

Central African Republic basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	101	0	37	138	0	59	Wheat	1.7
1982/83	90	0	39	129	0	54	Corn	5.4
1983/84	80	0	38	118	0	49	Millet	7.1
1984/85	95	0	30	125	0	50	Cassava	41.7
1985/86	105	0	40	145	0	57	Yams &	
1986/87	105	0	30	135	0	52	cocoyams	10.3
1987/88	109	0	27	136	0	51	Total	66.2
1988/89	135	0	35	170	0	62		
1989/90	125	0						
1990/91	125	0						
Roots								
1981/82	1,148	0	0	1,148	0	494		
1982/83	1,255	0	0	1,255	0	528		
1983/84	1,054	0	0	1,054	0	434		
1984/85	1,260	0	0	1,260	0	507		
1985/86	1,285	0	0	1,285	0	505		
1986/87	1,285	0	0	1,285	0	493		
1987/88	1,320	0	0	1,320	0	495		
1988/89	1,350	0	0	1,350	0	493		
1989/90	1,350	0						
1990/91	1,350	0						

Import requirements for Central African Republic

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	125	156	130	31	5	49
1990/91	125	160	133	35	8	54
Roots						
1989/90	1,350	1,394	1,462	44	112	133
1990/91	1,350	1,430	1,495	80	145	171
Cereal equivalent						
1989/90	639	687	687	47	48	78
1990/91	639	704	703	65	63	96

Financial indicators for Central African Republic, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	118	145	4	70	114	5
1982	124	150	5	46	120	3
1983	123	137	18	47	106	3
1984	115	140	15	53	99	1
1985	131	168	13	48	118	3
1986	130	201	18	65	112	8
1987	135	200	22	97	113	7
1988	140	190	22	108	118	
1989	140	190	19	90	132	6
1990	140	190	19	90	132	6

Additional food needs to support consumption for Central African Republic, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	18	6	29	10	30	10
1990/91	20	6	45	14	43	13
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			29	10	30	10
1990/91			45	14	43	13
Maximum absorbable						
Cereal equivalent						
1989/90			29	10	30	10
1990/91			45	14	43	13

Somalia

Since the main season harvest in Somalia will not begin until August, it is difficult to estimate 1989/90 production levels. However, rains have been favorable, so it is expected that cereal output will match last year's good harvest of approximately 650,000 tons. The estimated cereal import requirements of 300,000 tons for 1989/90 are very close to the levels imported throughout the 1980's. Wheat imports account for more than half of this total.

Somalia successfully implemented the schedule of policy reforms established by the IMF in 1988. Interest rates were raised, and credit availability tightened. The exchange rate, which had been fixed to the dollar, became pegged to a basket of currencies and depreciated in June 1988. Although still overvalued, the exchange rate has since been adjusted for the rate of inflation in Somalia relative to that of major trading partners.

Despite these efforts, the Somali economy has yet to demonstrate significant improvements. The debt burden continues to impede economic growth as it drains government resources. Exports are constrained by problems in the livestock sector, and unrest in the northern part of the country, which led to closing of the Berbera port during the peak of the export season. Somalia has lost the traditional export market due to high costs, poor quality, and unreliability of supply. Therefore, even with a more stable situation in the north, the market share may not be

regained.

Commercial import capacity is estimated at 103,000 tons. Considering a small stock adjustment, additional food needs for 1989/90 are projected to be 201,000 tons.

Somalia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	370	10	394	737	12	112	Wheat	9.8
1982/83	399	25	249	641	12	94	Rice	9.0
1983/84	358	20	330	671	12	95	Corn	17.5
1984/85	495	25	344	807	12	112	Sorghum	14.7
1985/86	650	45	274	912	12	125	Milk	13.0
1986/87	600	45	243	834	14	113	Total	63.9
1987/88	537	40	338	891	14	117		
1988/89	641	40	310	937	14	119		
1989/90	651	40						
1990/91	651	40						
Milk (whole)								
1981/82	543	0	14	557	0	83		
1982/83	547	0	11	558	0	80		
1983/84	529	0	14	543	0	76		
1984/85	530	0	14	544	0	75		
1985/86	540	0	20	560	0	76		
1986/87	560	0	20	580	0	77		
1987/88	560	0	20	580	0	75		
1988/89	560	0	20	580	0	73		
1989/90	560	0						
1990/91	560	0						

Import requirements for Somalia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	651	951	1,188	300	537	388
1990/91	651	970	1,210	319	559	409
Milk (dry equiv.)						
1989/90	50	56	118	6	68	11
1990/91	50	57	120	7	70	12

Financial indicators for Somalia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	255	520	47	31	208	19
1982	256	610	19	7	237	22
1983	177	486	25	9	152	19
1984	134	536	23	1	111	28
1985	113	490	5	3	108	47
1986	132	463	11	13	121	31
1987	129	534	9	7	120	39
1988	81	391	110	15	(29)	
1989	115	465	11	15	110	39
1990	125	485	11	15	119	39

Additional food needs to support consumption for Somalia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	103	34	197	64	432	141
1990/91	124	36	195	57	432	126
Stock adjustment						
1989/90			4	1	4	1
1990/91			4	1	4	1
Total						
1989/90			201	66	436	142
1990/91			198	58	436	127
Milk						
1989/90	0	1	6	17	0	0
1990/91	0	1	7	20	0	0
Total						
1989/90		34		82		142
1990/91		37		78		127
Maximum absorbable						
Cereal equivalent						
1989/90			201	66	288	94
1990/91			198	58	286	83
Milk						
1989/90			6	17	0	0
1990/91			7	20	0	0
Total						
1989/90				82		94
1990/91				78		83

Tanzania

A bumper cereal crop is expected in Tanzania for 1989/90, led by the recently harvested corn crop of nearly 2.4 million tons. Rain has been favorable throughout most of the growing season, particularly in the northern and western regions of the country. Heavy rains in March in the western and central areas caused some damage to roads and rail links. Drier weather beginning in mid-April facilitated harvesting. These factors have led to estimated import requirements (cereal equivalent) for 1989/90 of 244,000 tons. The commercial import capacity of 184,000 tons plus a small stock adjustment leaves additional food needs of 71,000 tons for 1989/90.

Tanzania continues to follow the path of policy reform by devaluing the shilling, increasing agricultural producer prices, reducing government spending, eliminating many price controls, and encouraging the private sector. The results of reforms are becoming evident. The economy has expanded and the supply of consumer goods has increased. In the agricultural sector, good weather, coupled with increased involvement of the private sector in grain trade, has improved food availability.

Tanzania basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	2,815	120	353	3,133	70	165	Wheat	2.8
1982/83	2,820	85	315	3,111	65	159	Rice	5.2
1983/84	2,668	44	363	2,983	58	147	Corn	21.5
1984/85	3,060	34	263	3,260	60	156	Sorghum	2.5
1985/86	3,545	37	221	3,659	72	169	Millet	1.5
1986/87	3,589	72	235	3,651	73	164	Cassava	28.0
1987/88	3,712	172	291	3,882	71	168	Total	61.5
1988/89	3,841	222	25	3,795	71	159		
1989/90	3,940	222						
1990/91	3,895	222						
Roots								
1981/82	6,000	0	0	6,000	0	309		
1982/83	5,000	0	0	5,000	0	250		
1983/84	5,400	0	0	5,400	0	261		
1984/85	5,600	0	0	5,600	0	263		
1985/86	5,500	0	0	5,500	0	250		
1986/87	5,500	0	0	5,500	0	242		
1987/88	5,500	0	0	5,500	0	234		
1988/89	6,000	0	0	6,000	0	247		
1989/90	6,000	0						
1990/91	6,000	0						

Import requirements for Tanzania

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	3,940	4,149	4,022	209	82	317
1990/91	3,895	4,292	4,129	397	234	509
Roots						
1989/90	6,000	6,109	6,091	109	91	1,773
1990/91	6,000	6,320	6,270	320	270	2,042
Cereal equivalent						
1989/90	5,860	6,104	5,971	244	111	777
1990/91	5,815	6,315	6,135	500	320	1,052

Financial indicators for Tanzania, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	688	1,038	77	19	611	1
1982	413	984	63	5	350	10
1983	379	693	57	19	322	11
1984	373	759	62	27	311	14
1985	325	857	61	16	264	22
1986	346	912	76	61	270	15
1987	347	1,150	83	32	264	14
1988	402	1,229	381	78	21	
1989	450	1,000	91	78	391	17
1990	475	1,000	97	78	411	17

Additional food needs to support consumption for Tanzania, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	184	56	59	18	0	0
1990/91	217	58	282	76	103	28
Stock adjustment						
1989/90			12	4	12	4
1990/91			8	2	8	2
Total						
1989/90			71	21	0	0
1990/91			290	78	111	30
Maximum absorbable						
Cereal equivalent						
1989/90			71	21	0	0
1990/91			290	78	111	30

Uganda

Widespread rains throughout the growing season indicate an above-average cereal harvest in Uganda. Therefore, 1989/90 food production is forecast to exceed estimated consumption and no additional food needs are anticipated.

The government remains committed to policy reform in the areas of producer pricing, marketing, accessibility to foreign exchange, credit availability, and rehabilitation of infrastructure.

In March 1989, the Ugandan shilling was further devalued to encourage export diversification and economic growth. The new exchange rate is currently much closer to the black market rate, which officials feel is a truer reflection of the market value of the currency.

Also in March, the government announced that exporters of products other than coffee could retain 100 percent of their receipts to purchase imports.

Uganda basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	1,142	0	20	1,102	60	89	Corn	11.4
1982/83	1,279	0	5	1,209	75	96	Sorghum	7.1
1983/84	1,365	0	4	1,289	80	99	Millet	10.4
1984/85	1,375	0	8	1,293	90	97	Cassava	12.2
1985/86	1,695	0	2	1,616	81	115	Sweet potatoes	5.2
1986/87	1,760	0	0	1,672	88	115	Potatoes	1.1
1987/88	1,825	0	5	1,739	91	115	Bananas & plantains	19.5
1988/89	1,875	0	0	1,784	91	114	Dry beans	8.4
1989/90	1,905	0					Total	75.2
1990/91	1,925	0						
Roots								
1981/82	8,195	0	0	8,195	0	627		
1982/83	8,570	0	0	8,570	0	640		
1983/84	9,102	0	0	9,102	0	661		
1984/85	9,176	0	0	9,176	0	647		
1985/86	10,540	0	0	10,540	0	716		
1986/87	10,835	0	0	10,835	0	707		
1987/88	11,140	0	0	11,140	0	700		
1988/89	11,400	0	0	11,400	0	693		
1989/90	11,405	0						
1990/91	11,405	0						
Pulses								
1981/82	240	0	0	240	0	18		
1982/83	300	0	1	301	0	22		
1983/84	314	0	0	314	0	23		
1984/85	240	0	(4)	236	0	17		
1985/86	360	0	(5)	355	0	24		
1986/87	350	0	(10)	340	0	22		
1987/88	360	0	(10)	350	0	22		
1988/89	370	0	0	370	0	22		
1989/90	375	0						
1990/91	375	0						

Import requirements for Uganda

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	1,905	1,816	2,124	(89)	219	56
1990/91	1,925	1,878	2,185	(47)	260	104
Roots						
1989/90	11,405	11,611	10,300	206	(1,105)	776
1990/91	11,405	12,011	10,501	606	(904)	1,195
Cereal equivalent						
1989/90	4,617	4,454	4,374	(163)	(244)	1,620
1990/91	4,637	4,608	4,505	(30)	(132)	1,814
Pulses						
1989/90	375	380	426	5	51	35
1990/91	375	394	438	19	63	49

Financial indicators for Uganda, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	229	284	58	30	171	2
1982	347	338	55	78	292	4
1983	368	343	77	107	291	1
1984	407	287	92	68	316	0
1985	348	238	64	23	284	2
1986	395	310	45	25	350	1
1987	320	484	70	55	250	0
1988	375	350	139	49	236	
1989	400	325	74	49	339	1
1990	400	325	74	49	339	1

Additional food needs to support consumption for Uganda, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	4	1	0	0	0	0
1990/91	4	1	0	0	0	0
Stock adjustment						
1989/90			0	0	0	0
1990/91			0	0	0	0
Total						
1989/90			0	0	0	0
1990/91			0	0	0	0
Pulses						
1989/90	0	0	0	0	0	0
1990/91	0	0	2	1	0	0
Total						
1989/90		2		0		0
1990/91		2		1		0
Maximum absorbable						
Cereal equivalent						
1989/90			0	0	0	0
1990/91			0	0	0	0
Pulses						
1988/89			0	0	0	0
1989/90			2	1	0	0
Total						
1988/89				0		0
1989/90				1		0

Dominican Republic

Economic activity in the Dominican economy has not improved appreciably in the past 6 months and there is little hope that it will in the next 6 to 12 months. Continuing strong prices for primary imports, including grains, feeds, other food products and agricultural and industrial inputs, make it difficult for the government to control inflation, pay its debts, and support economic growth and development. The need for food imports, therefore, has changed little in the past 6 months.

The assessment of additional food needs for the Dominican Republic has increased slightly since February 1989, while estimates of the country's commercial import capacity have dropped from 276,000 tons of cereal equivalent to 242,000 tons since the previous assessment for fiscal year 1989/90.

Continuing budget and balance of payment problems have generated an additional need for status quo and nutrition-based imports for the current year. For example, the latest estimate of the status quo cereal equivalent need for 1989/90 has increased from 278,000 tons to 309,000 tons since February. Similarly, the nutrition based need has increased from 265,000 tons of cereal equivalent to 280,000 tons.

The food outlook for 1990/91 has improved slightly, on the strength of better commercial import capacity. But this may be slightly optimistic given current conditions in world markets for Dominican imports and exports.

Dominican Republic basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	334	130	315	478	195	113	Wheat	9.1
1982/83	373	106	342	478	224	114	Rice	20.8
1983/84	367	119	390	514	260	123	Corn	2.2
1984/85	330	102	434	486	270	117	Cassava	1.7
1985/86	411	110	523	595	305	136	Plantains	8.6
1986/87	358	144	642	600	320	136	Bananas	3.6
1987/88	359	224	580	601	320	132	Dry beans	3.5
1988/89	369	242	600	649	320	139	Milk	6.2
1989/90	370	242					Total	55.7
1990/91	370	242						
Roots								
1981/82	1,105	0	(21)	1,084	0	181		
1982/83	1,080	0	(12)	1,068	0	174		
1983/84	1,090	0	(26)	1,064	0	169		
1984/85	1,045	0	(25)	1,020	0	158		
1985/86	1,054	0	(30)	1,024	0	155		
1986/87	1,036	0	(25)	1,011	0	149		
1987/88	998	0	(21)	977	0	140		
1988/89	1,092	0	(23)	1,069	0	154		
1989/90	1,110	0						
1990/91	1,110	0						
Pulses								
1981/82	43	0	0	43	0	7		
1982/83	41	0	0	41	0	7		
1983/84	38	0	0	38	0	6		
1984/85	34	0	8	42	0	7		
1985/86	33	0	0	33	0	5		
1986/87	41	0	0	41	0	6		
1987/88	65	0	2	67	0	10		
1988/89	70	0	0	70	0	10		
1989/90	40	0						
1990/91	40	0						
Milk								
1981/82	350	0	0	350	0	59		
1982/83	352	0	0	352	0	57		
1983/84	310	0	0	310	0	49		
1984/85	389	0	0	389	0	60		
1985/86	335	0	0	335	0	51		
1986/87	305	0	0	305	0	45		
1987/88	305	0	0	305	0	44		
1988/89	310	0	0	310	0	45		
1989/90	320	0						
1990/91	300	0						

Import requirements for Dominican Republic

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	370	929	914	559	544	623
1990/91	370	953	936	583	566	649
Roots						
1989/90	1,110	1,093	1,217	(17)	107	184
1990/91	1,110	1,120	1,245	10	135	216
Cereal equivalent						
1989/90	679	1,230	1,245	551	566	620
1990/91	679	1,261	1,276	582	597	653
Pulses						
1989/90	40	45	64	5	24	35
1990/91	40	47	65	7	25	37
Milk (dry equiv.)						
1989/90	29	32	57	4	29	10
1990/91	27	33	59	6	32	13

Financial indicators for Dominican Republic, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	1,524	2,107	229	225	1,295	10
1982	1,146	1,793	256	129	890	9
1983	1,249	1,882	221	171	1,028	7
1984	1,375	1,804	156	254	1,219	7
1985	1,344	1,807	202	340	1,142	8
1986	1,422	1,894	272	376	1,150	7
1987	1,471	1,966	162	182	1,309	0
1988	1,500	2,020	200	200	1,300	
1989	1,535	2,065	225	220	1,235	5
1990	1,570	2,110	250	240	1,259	5

Additional food needs to support consumption for Dominican Republic, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	242	36	309	46	280	42
1990/91	284	37	297	39	260	34
Stock adjustment						
1989/90			(7)	(1)	(7)	(1)
1990/91			6	1	6	1
Total						
1989/90			302	45	273	41
1990/91			303	39	266	35
Pulses						
1989/90	3	3	2	2	20	19
1990/91	4	3	3	3	22	20
Milk						
1989/90	2	7	1	3	0	0
1990/91	3	7	3	8	0	0
Total						
1989/90		46		50		60
1990/91		47		50		55
Maximum absorbable						
Cereal equivalent						
1989/90			302	45	273	41
1990/91			303	39	266	35
Pulses						
1989/90			2	2	20	19
1990/91			3	3	22	20
Milk						
1989/90			1	3	0	0
1990/91			3	8	0	0
Total						
1988/89				50		60
1989/90				50		55

Haiti

Continuing political unrest in Haiti is affecting the economic and financial position of the country, including the ability to finance commercial imports of agricultural and nonagricultural products. For example, Haiti's commercial food import capacity is currently estimated at 50,000 tons for 1989/90, compared with 91,000 tons just 6 months earlier. Continuing strong prices in world markets for cereals and other basic food items are also contributing to Haiti's food and financial problems.

Haiti's status quo and nutrition based food needs have increased as its ability to finance commercial imports has decreased. Since February, estimated status quo additional food needs for 1989/90 have risen by 10,000 tons to 189,000. The total cost of the status quo need has risen $16,000. Similarly, nutrition based additional food needs have increased 41,000 tons over the February estimate of 241,000. These are not large shifts by world standards, but they are considerable to a small country such as Haiti.

Foreign grant and aid programs of the United States and other countries have bolstered the food supply and economy of Haiti for a number of years, and recent delays in the flow of these funds has hurt the economy. Even if the political and economic situation in Haiti improve, a quick turn-around in the food situation is not likely in the next year or two.

Haiti basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	368	15	165	463	70	97	Wheat	11.4
1982/83	375	15	183	455	75	95	Rice	7.6
1983/84	388	43	185	497	75	101	Corn	13.5
1984/85	325	44	212	476	60	93	Sorghum	7.2
1985/86	315	45	224	490	50	92	Cassava	3.5
1986/87	378	44	285	603	60	111	Dry beans	3.5
1987/88	332	44	310	572	70	106	Chickpeas	2.5
1988/89	355	44	250	545	60	98	Total	49.3
1989/90	380	44						
1990/91	400	44						
Roots								
1981/82	252	0	4	256	0	47		
1982/83	250	0	7	257	0	46		
1983/84	255	0	5	260	0	46		
1984/85	250	0	5	255	0	44		
1985/86	260	0	5	265	0	45		
1986/87	260	0	5	265	0	44		
1987/88	260	0	5	265	0	44		
1988/89	260	0	0	260	0	42		
1989/90	260	0						
1990/91	260	0						
Pulses								
1981/82	65	0	13	78	0	14		
1982/83	65	0	15	80	0	14		
1983/84	64	0	11	75	0	13		
1984/85	64	0	20	84	0	15		
1985/86	56	0	20	76	0	13		
1986/87	65	0	20	85	0	14		
1987/88	65	0	17	82	0	13		
1988/89	70	0	0	70	0	11		
1989/90	75	0						
1990/91	80	0						

Import requirements for Haiti

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	380	619	692	239	312	320
1990/91	400	630	705	230	305	312
Roots						
1989/90	260	291	331	31	71	68
1990/91	260	295	336	35	76	74
Cereal equivalent						
1989/90	450	698	782	247	332	326
1990/91	470	710	796	239	326	319
Pulses						
1989/90	75	87	123	12	48	18
1990/91	80	88	127	8	47	15

Financial indicators for Haiti, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	246	552	21	24	225	27
1982	278	521	16	4	262	20
1983	295	547	15	9	280	19
1984	324	572	17	13	307	14
1985	342	583	20	6	322	15
1986	297	493	19	16	278	12
1987	314	528	18	17	296	0
1988	310	540	18	10	292	
1989	320	555	20	10	297	9
1990	330	570	20	10	307	9

Additional food needs to support consumption for Haiti, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent Consumption						
1989/90	50	13	197	51	282	72
1990/91	58	13	181	42	268	61
Stock adjustment						
1989/90			4	1	4	1
1990/91			2	1	2	1
Total						
1989/90			201	52	285	73
1990/91			184	42	270	62
Pulses						
1989/90	3	2	8	6	45	29
1990/91	4	2	4	3	43	27
Total						
1989/90		15		57		103
1990/91		16		45		88
Maximum absorbable						
Cereal equivalent						
1989/90			201	52	279	72
1990/91			184	42	263	60
Pulses						
1989/90			8	6	15	10
1990/91			4	3	11	7
Total						
1989/90				57		82
1990/91				45		67

Jamaica

Jamaica depends on imported grains, oilseeds, and related products to sustain the diverse diet it has enjoyed for many years. Nearly all attempts to increase production of staples in Jamaica over the past 20 years have failed, primarily because there are only a few areas suited to growing cereals, oilseeds, and other staples without massive investments in expensive inputs and technology.

The successful introduction of African palm suggests that domestically produced palm oil may eventually reduce Jamaica's dependence on imported oilseeds and related products. In the interim, Jamaica will remain primarily dependent on imports of wheat, corn, and other food products under concessional agreements with the United States or other countries. U.S. exporters will remain primary suppliers only if they can successfully compete with other subsidized exporters in world markets.

Changes in estimates of Jamaica's food needs reflect higher world grain prices, an adjustment in the base period, and the updating of historical production and financial variables. Jamaica relies so heavily on food purchases that year-to-year changes in agricultural production have very little effect on the need for imports.

Higher world market prices for cereals have reduced 1989/90 commercial import capacity from 162,000 tons of grain equivalent to 131,000 tons, even though the estimated foreign exchange available for commercial imports improved considerably. Lower estimated use of roots which results from a change in the base period offsets the decreased commercial import capacity. Status quo additional food needs are now 258,000 tons for 1989/90, up 18,000 from the February estimate. Nutrition-based import requirements are 201,000 tons for 1989/90, up 57,000 tons from February.

Jamaica basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81 Commodity coverage	1979-81 Share of diet
	1,000 tons					Kilos		Percent
Major cereals								
1981/82	9	11	358	234	133	163	Wheat	21.9
1982/83	10	11	398	229	153	166	Rice	8.0
1983/84	10	37	420	245	170	179	Corn	4.0
1984/85	10	52	385	294	121	177	Yams & sweet	
1985/86	11	32	352	250	100	147	potatoes	6.2
1986/87	11	45	415	256	143	166	Total	40.0
1987/88	11	72	472	323	168	202		
1988/89	14	64	451	304	161	189		
1989/90	14	64						
1990/91	14	64						
Roots								
1981/82	150	0	0	150	0	66		
1982/83	120	0	0	120	0	52		
1983/84	155	0	0	155	0	67		
1984/85	185	0	0	185	0	79		
1985/86	195	0	0	195	0	82		
1986/87	193	0	0	193	0	80		
1987/88	222	0	0	222	0	91		
1988/89	225	0	0	225	0	92		
1989/90	230	0						
1990/91	230	0						

Import requirements for Jamaica

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	1,000 tons					
Major cereals						
1989/90	14	423	369	409	355	490
1990/91	14	427	373	413	359	496
Roots						
1989/90	230	171	160	(59)	(70)	(5)
1990/91	230	173	162	(57)	(68)	(3)
Cereal equivalent						
1989/90	89	479	422	389	333	489
1990/91	89	484	427	394	337	495

Financial indicators for Jamaica, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	$ million					Percent
1981	1,508	1,961	237	85	1,263	9
1982	1,371	1,925	242	109	1,129	7
1983	1,332	1,789	264	63	1,068	9
1984	1,335	1,788	261	97	1,074	5
1985	1,268	1,788	395	161	873	7
1986	1,412	1,597	435	98	977	2
1987	1,632	1,907	437	174	1,195	0
1988	1,800	2,000	450	150	1,350	
1989	1,950	2,150	450	150	1,478	3
1990	2,100	2,300	500	150	1,566	3

Additional food needs to support consumption for Jamaica, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	$ million	1,000 tons	$ million	1,000 tons	$ million
Cereal equivalent						
Consumption						
1989/90	131	33	258	64	201	50
1990/91	156	35	239	53	181	40
Stock adjustment						
1989/90			(7)	(2)	(7)	(2)
1990/91			1	0	1	0
Total						
1989/90			251	63	194	49
1990/91			239	53	182	41
Maximum absorbable						
Cereal equivalent						
1989/90			251	63	194	49
1990/91			239	53	182	41

Glossary

Status quo	A measure of per capita food availability in recent years
Nutrition-based	Per capita food availability sufficient to meet internationally accepted minimum caloric standards
Cereal equivalent	Cereal required to meet shortfalls in both cereals and roots and tubers
Import requirement	Imports necessary to achieve either status quo or nutrition-based food availability, including both commercial and concessional food shipments
Tons	Metric tons
Dollars	U.S. Dollars unless otherwise specified
GNP	Gross national product
GDP	Gross domestic product

Methodological Notes

Calculating Food Needs

World Food Needs and Availabilities provides two measures of total consumption of major food staples and corresponding estimates of security stock levels for food grains. The framework used for calculating that portion of such consumption that may not be met by domestic production or commercial imports is outlined below. These unmet food requirements are henceforth referred to as *additional food needs*. All quantities are reported in thousand metric tons and all values in millions of U.S. dollars.

The first step in the process of calculating additional food needs is to estimate import requirements to support consumption:

(1) $$IRC = DR - PR$$

where:

IRC = import requirements to support consumption

DR = total domestic requirements (total use)

PR = forecast total domestic production (ERS)

Import requirements should not be confused with forecasts of imports for two important reasons. First, the factors that determine actual total use (domestic requirements) may be much different than those used in deriving the status quo and nutrition-based estimates of total requirements used in this report. The only demand factor that governs import requirements is population growth. As such, equation (1) above is merely a gap between forecast production and two measures of consumption (described below) that are purposely derived in such a way as to be directly comparable across a wide range of countries. Second, production is implicitly assumed to be independent of import requirements as defined above, whereas actual imports and production are certainly related.

Stocks are held constant. A discussion of the food security adjustment for stocks appears below.

The second step in the procedure separates the import requirement into the portion that may be purchased commercially and the portion that may be unmet. Estimates of additional food needs are the differences between total import requirements and those imports that a country can afford to purchase commercially in world commodity markets, herein referred to as the commercial import capacity:

(2) $$AFNC = IRC - CIC$$

where:

AFNC = additional food needs to support consumption

CIC = commercial import capacity

The last step in estimating additional food needs involves adding an estimated stock adjustment to additional food needs to support consumption:

(3) $$AFNT = AFNC + SA$$

where:

AFNT = total additional food needs

SA = stock adjustment

Commodity Coverage

The commodities included in the food needs assessment for each country were selected to cover important food staples in each country. An attempt was made to include at least two-thirds of the average daily caloric intake in each country to ensure that assumptions regarding domestic food availability and requirements in each country are representative of the total food supply situation. For a few countries, less than two-thirds of the diet is covered. This is due either to great diversity in the average diet; to limited availability of current, reliable data; or to both. Coverage is more complete in Asian and African countries where relatively few food staples account for the bulk of the average diet, and less complete in Latin American countries, where diets are more diversified. The specific commodities included in the food needs assessment for each country and their share in daily per capita caloric intake is listed in the tables.

Food Substitution Assumption

Assumptions regarding the substitutability of foods are necessary in assessing food needs because shortages in some items can be compensated for by surpluses or imports of others. Also, some items that figure prominently in diets in low-income countries, particularly roots and tubers, are not commonly traded and, therefore, are not available to meet commercial import or additional requirements.

In this report, all cereals (including wheat, milled rice, and coarse grains) are considered substitutable on a one-for-one basis. Roots and tubers (cassava, potatoes, bananas, and plantains are also included) are assumed substitutable for cereals on a caloric-equivalent basis. The treatment of pulses depends on their importance and role in the diet.

Calculation of Import Requirements

Import requirements are reported in the text for individual countries in quantity only. Additional food needs appear as both quantities and values. The generic calculations for import requirements and additional food needs are based on the following variables:

AFNCQ = additional food needs to support consumption, quantity;

AFNCV = additional food needs to support consumption, value;

IRCQ = food import requirements to support consumption, quantity;

CICV = commercial food import capacity, value;

CICQ = commercial food import capacity, quantity.

The following subscripts are added to the above: t denotes total additional food needs and import requirements for an individual country (value only); j denotes one of four major commodity groupings; k denotes the number of major commodity groups included for a single country; and i denotes individual commodities within one of the major groups.

The general framework for calculating $IRCV_t$ $IRCV_k$ and $IRCQ_k$ is as follows:

$$(4) \qquad IRCV_t = \sum_{j=1}^{k} IRCV_j;$$

subject to

$$IRCV_j > 0$$

(5) $IRCV_j = IRCQ_j \times IUV_j$

where:

IUV = estimated import unit values in dollars (see section below on import unit value calculations); and for the cereal equivalent group only:

(6) $$IRCQ_j = \sum_{i=1}^{n} (IRCQ_i \times WE_i)$$

where:

WE = wheat-equivalent conversion factors for a commodity if the commodity is a non-cereal and is assumed to be substitutable for cereals on a caloric-equivalent basis. If a commodity group is not substitutable with cereals (i.e., vegetable oils, milk, pulses) then $IRCQ_j$ is not converted to a wheat equivalent.

The procedures used for calculating IRCQ in status quo and nutrition-based estimates are described in separate sections below. The common structure for both of these IRCQ calculations is as follows:

(7) $IRCQ_i = DR_i - PR_i$

(8) $DR_i = DRNF_i + DRF_i$

where:

DR = domestic requirement (quantity);

DRNF = domestic requirement for non-feed use (quantity);

DRF = domestic requirement for feed use (quantity; see section below on calculating feed use)

subscript "i" denotes the commodity.

The procedure for calculating $CICV_t$ is:

(9) $$CICVt = \sum_{j=1}^{n} CICVj$$

The method of calculating $CICV_j$ and $CICQ_j$ is described in a separate section below.

The following points should be noted on the treatment and interpretation of negative values in import requirements and additional food needs calculations:

A negative import requirement for a commodity group in quantity and value terms ($IRCQ_j < O$, $IRCV_j < O$) implies a 'surplus' in domestic production above what is needed to support consumption. The surplus is, by definition, not substitutable for any shortfalls in any of the other commodity groups. For example, a surplus vegetable oil import requirement may not offset a deficiency in grains.

While the above negative values, where they occur, are carried in the tables containing estimates of import requirements to support consumption, they are factored in as zeros when calculating additional food needs to support consumption for that commodity group ($AFNCQ_j$, $AFNCV_j$), and in calculating country total import requirements ($IRCV_t$) and additional food needs (FAN_t). Inclusion of the negative value would imply exports of the calculated surplus (and an addition to commercial import capacity). If the country is a traditional exporter of the surplus

commodity, the impact of the export earnings on additional food needs is already accounted for in the commercial import capacity calculation. If the country is not a traditional exporter of the surplus commodity, imposition of an export requirement for the purpose of food need calculations would be an unnecessarily rigid assessment.

When a negative additional food need value occurs for a commodity group ($AFNCV_j < O$), this calculated surplus is made to offset any positive additional food need ($AFNCV_j > O$) for other commodity groups in that country. This is appropriate because of conditions imposed on the calculating of additional food needs for commodity groups ($AFNCQ_j$, $AFNCV_j$) described above. Negative unmet food need values imply a surplus of estimated commercial import capacity in a food group; the surplus can appropriately be diverted to purchases in another food group without violating the assumption that one food group cannot substitute for another. These situations are footnoted in the country tables. Negative additional food need totals for a country imply a surplus in commercial import capacity ($CICV_t$), over and above what imports are needed to support consumption in all commodity groups ($IRCV_t$) in the country. They do not imply food available for export commercially or concessionally. Such negative values, when they occur, are shown as zeros in the additional food need tables. However, $AFNCV_t$, whether positive or negative, is the value used in the additional food need ranking provided in the May issue of the report.

With estimates derived in this way, the larger the gap between domestic food availabilities and food requirements, or the smaller the capacity to import food commercially, the larger the additional food need. Other things being equal, gains in domestic production or lower levels of feed use will reduce estimated import requirements and these additional food needs to support consumption. To the extent that the food staples selected for a country are judged to be substitutable, any estimated food surpluses are applied to filling the gap for commodities estimated to be in deficit. Also, for any commodity group where a surplus commercial import capacity exists, that surplus is applied to any estimated deficits for other commodity groups. No allowance is made for the effects of stock adjustments, positive or negative, on import requirements or additional food needs. The need for stock adjustments and their impact on additional food needs are estimated separately, as described in the following sections.

Calculating Status Quo Import Requirements

Status quo import requirements for a particular country, commodity, and year are calculated, following equation (7) in the previous section, as:

(10) $$IRCQS = (DRNFS + DRF) - (PR)$$

where DRF and PR are as defined elsewhere. Status quo estimates of domestic requirements for non-feed use (DRNF) are calculated as:

(11) $$DRNFS = P*PCC_B/100$$

where:

P = population in millions;

PCC = per capita nonfeed consumption of a commodity in

subscript B = the base period years for which PCC is averaged.

One or more years of unusually low (or unusually high) per capita food availability during the base period will raise (lower) import requirements. A simple average of the most recent 4 years gives a per capita food availability which fluctuates sharply. To stabilize estimates of per capita food availability, they are calculated as the mean of the most recent 4 years that deviate less than one standard deviation from the mean of the most recent 8 years of record.

Calculating Nutrition-based Import Requirements

The general form of the nutrition-based import requirement equation is the same as shown in (7) above. However, because the nutrition-based method uses a fixed minimum consumption norm rather than the status quo, it is necessary to assess domestic availabilities and domestic nonfeed requirements on a net basis--net of milling, seed, waste, and non-food use. With these adjustments, the nutrition-based import requirement calculations for a particular country, commodity, and year are as follows:

(12) $$IRCQN = ([DRNF_m - DA,]/MR) + DRF$$

(13) $$DRNF_m = (PCCAL_B/PCCAL_{TB})*(RMPCCAL_T)*(CALCF_m)*(365)*(P)/1000$$

(14) $$DA_m = [(PR)*(1 - (NFUR + WR + AUR)) - (SR * PR) - DRF]*(MR)*(1 - NFUR_m + WR_m)$$

The subscript m indicates a variable expressed in milled (extracted) terms;

The variables IRCQ, DRNF, DRF, P, and PR have been described elsewhere. The new variables in the nutrition-based equation are:

DA = domestic availability;

MR = milling/extraction rate of a particular commodity (source: FAO);

DRF = feed use as calculated in the section below;

PCCAL = daily per capita consumption of a particular commodity in calories (source: FAO and ERS; see notes below);

RMPCCAL = recommended minimum total daily caloric intake (source: FAO);

CALCF = kilograms per capita, assumes base period average caloric intake (source: FAO);

NFUR = average rate of utilization for non-food purposes for a particular commodity during 1979-81 (source: FAO);

WR = rate of waste for a particular commodity (source: FAO);

AUR = average rate of use of alcoholic beverages manufactured from a particular commodity during 1971-81 (source: FAO); and

SR = average rate of seed use from domestic production for a particular commodity during 1979-81 (source: FAO).

Thus, in the nutrition-based method, domestic requirements for nonfeed use (DRNF) in milled/extracted terms are calculated by first determining commodity caloric shares in the total diet in a base period and, on the basis of those shares, determining the per capita caloric amounts needed to achieve the FAO recommended minimum. These per capita daily caloric estimates are then converted to annual countrywide requirements in terms of tons of milled commodity. Domestic availability (DA) is calculated in milled terms by adjusting coarse domestic production (PR) for non-food use, waste, alcoholic beverage use, and seed use, and milling/extraction losses using rates derived from the FAO food balances. Import requirements in coarse terms are then computed as the unmilled difference between the domestic requirement for nonfeed use (DRNF) and domestic availability (DA) plus requirements for feed use (DRF). It is important to note that the import requirement estimates derived from this procedure do not allow for reductions for waste, non-food use, or alcoholic beverage and seed use from imported commodities; only reductions for feed use and milling/extraction are accommodated.

The appropriate measure of coarse domestic production (PR) for the nutrition-based method is identical to that used in the status quo method. The calculation of import requirements (IRCQ) in coarse terms is shown above, and the appropriate calculation of coarse domestic requirements (DR) for the nutrition-based method is:

(15) $$DRN = PR + IRCQN$$

The following points should be noted on procedures used in the nutrition-based calculations:

1. Calories available from a commodity are derived using the 1979-81 FAO food balance data for a particular commodity and country. Where significant differences exist between ERS and FAO production, trade, or consumption, ERS revises the caloric estimates for consistency with ERS supply and use data.

2. The base period used in calculating each commodity's caloric share in the diet in each country is 1979-81, unless the average suggests use of 1 of the 3 years individually.

3. Calculations of coarse per capita consumption from the targeted coarse total use and population data provided may yield slightly different levels for 1989/90 and 1990/91. They may vary from year to year because no nonfood use (other than feed use), waste, alcoholic beverage use, or seed use is deducted from imports and the mix of imports and domestic availability may change from year to year. At the levels shown for targeted coarse total use and population, however, actual per capita consumption of a commodity will be identical in both years.

4. For many countries, the proportion of feed use implied in the 1979-81 FAO food balances is very similar to that implied by the estimates of feed use (DRF) in this report. Where significant differences occurred, adjustments were made in the base-period human consumption levels ($PCCAL_{iB}$ and $PCCAL_{TB}$) for the purposes of the nutrition-based calculations. These alterations were judged necessary to allow the use of a common assumption on feed use for both methods, and to prevent differences in feed assumptions from interfering with the interpretation of the two food need estimates.

5. Because rice is normally traded on a milled (as opposed to paddy) basis, and all rice production, stock, and trade data presented in this report are on a milled basis, the nutrition-based import requirement equations used for rice are modified to accommodate this difference.

Import requirements estimated this way would provide enough food per person to meet the FAO recommended minimum daily caloric intake level. The FAO caloric standards have been criticized for overestimating minimum requirements and the FAO food balance assumptions used in the calculations have also been criticized for their accuracy. In regard to the caloric standards, the key issue is whether they introduce any bias across the countries examined. Because the caloric standards are derived using a similar methodology across all countries, it is unlikely that significant bias is introduced. In any event, errors in absolute levels of estimates do not prevent the use of those estimates in generating country ranking.

The FAO food balance assumptions are considered to be of comparable reliability for all countries covered, and the methods used for calculating food balances are consistent. Therefore, it is considered unlikely that significant bias across countries is introduced by their use.

Calculating Feed Use

The same levels of estimated feed use are included in the calculation of both the status quo and nutrition-based estimates of total and import requirements. The procedure used to calculate feed use (DRF) of a particular commodity in a given country and year is:

(16) $$DRF = P * PCCF_B/100$$

where P is population in thousands as defined earlier, and

PCCF = per capita utilization of a commodity for livestock feed (source: ERS estimates), and the subscript B designates the base period years over which PCCF is averaged.

With this method of calculation, feed use grows from the base period average at the same rate as population. The implication, which is intended for the purpose of additional food need estimates, is that no growth in per capita feed use is provided for. The representativeness of the base period average must, however, be scrutinized when interpreting the calculated levels of feed use. Import requirement estimates for countries experiencing rapid growth in feed use (and livestock production) are constrained by this procedure.

Calculating Food Security Stock Adjustments

The Stocks-to-Consumption Ratio Method

This report provides separate estimates of countries' cereal stock levels to ensure food security. Stock requirements are segregated from consumption requirements because, for allocation purposes, ensured food supplies to support consumption may be viewed as the first priority. In addition, the reliability of stock information across countries varies much more widely than consumption. Nevertheless, a program that adjusted additional food need allocations to recipient countries' stock positions could help prevent food emergencies in these countries, and also help reduce abrupt swings in additional food needs from year to year. This would be achieved by allowing for stock building in relatively good years, or when stocks are relatively low, and for stock draw-down in relatively bad years, but only when stocks are relatively high.

In this report, estimates of stock adjustments are made only for the commodity group comprising cereals and cereal equivalents for countries where historical stock data are available. Stock adjustment estimates are limited to the cereal-equivalent category because historical stock data commonly are available only for this commodity group, and because cereals are the predominant food staple in the countries covered in this report. The procedures for estimating stock adjustments outlined below use historical relationships between stocks and consumption in each country. The observed historical ratios of stocks to consumption are used to define the range of adjustment, in the absence of consistent data on stock-building targets and minimally acceptable stock levels to be drawn down to in each country. The next section discusses an alternative approach employed when projected stocks are exceptionally large and stock-building targets are know or can be surmised.

The procedures are outlined below in algebraic form. Stock levels are calculated in absolute terms and in terms of increments to be added to (or subtracted from) existing stocks. These increments are then added to estimates of import requirements and additional food needs to support consumption in order to obtain an estimate of total additional needs to support both consumption and stocks. The following variables are used in estimating stock adjustments:

TPCE = total production of cereals and cereal equivalents (quantity);

TCEES = total ending stocks of cereals and cereal equivalents (quantity);

ESR = ratio of ending stocks to total use;

$MNESR_B$ = average ratio of ending stocks to total use for cereal equivalents during base period B;

$MXESR_B$ = maximum ratio of ending stocks to total use for cereal equivalents during base period B;

$MINESR_B$ = minimum ratio of ending stocks to total use for cereal equivalents during base period B;

DRS = status quo based estimate of domestic requirements (DRNFS + DRF quantity);

ASL = adjusted stock level (quantity);

SAQ = stock adjustment in terms of the increment to existing stocks (quantity); and

SAV = stock adjustment (value).

Using the above-named variables, the adjusted stock level (ASL) for year t (the first forecast year) is calculated in the following way:

If $TPCE_t >$ trend and $ESR_{t-1} < 1.1 * MNESR_B$:

$ASL_t = (ESR_{t-1} + (MXESR_B - ESR_{t-1})/3) * DRS_t$

If $TPCE_t >$ trend and $ESR_{t-1} > 1.1 * MNESR_B$:

$ASL_t = ESR_{t-1} * DRS_t$

If $TPCE_t <$ trend and $ESR_{t-1} < .9 * MNESR_B$:

$ASL_t = (ESR_{t-1} + (MXESR_B - ESR_{t-1})/3) * DRS_t$

If $TPCE_t <$ trend and $1.1 * MNESR_B > ESR_{t-1} > .9 * MNESR_B$:

$ASL_t = ESR_{t-1} * DRS_t$, and

If $TPCE_t <$ trend and $ESR_{t-1} > 1.1 * MNESR_B$:

$ASL_t = (ESR_{t-1} + MINESR_B)/2 * DRS_t$.

The stock adjustment for year t in quantity (SAQ_t) and value (SAV_t) terms is calculated as:

$SAQ_t = ASL_t - TCEES_{t-1}$, and

$SAV_t = SAQ_t * IUV_t$

where IUV_t is the estimated import unit value for cereals in year t as defined in the following section.

The adjusted stock level for (ASL) for year t+1 (the second out year) is calculated using the identical equations as for year t with the following substitutions:

1. The subscript t+1 is substituted for the subscript t.
2. The variable $AESR_t$ (adjusted ending stock ratio in year t) is substituted for ESR_{t-1}, where $AESR_t = ASL_t/DRS_t$

The stock adjustment for year t+1 in quantity (SAQ_{t+1}) and value (SAV_{t+1}) is calculated as:

$SAQ_{t+1} = ASL_{t+1} - ASL_t$, and

$SAV_{t+1} = SAQ_{t+1} * IUV_{t+1}$.

Stock adjustments calculated by the procedures described above have the following characteristics:

1. If production is above trend, stocks are built up if they are relatively low and are allowed to remain "high" if they are already "high." High is defined as a ratio of stocks to total use greater than 10 percent above the average for the base period. If production is below trend, stocks are built up if they are "low" (10 percent or more below that given by the average base period ratio of ending stocks to total use), left unchanged if they are around the base period mean, and drawn down if they are high. If stocks are low, stock building is allowed for in both above- and below-trend production situations for reasons of food security.

2. The rates of stock adjustment used in the calculations are, when building, one-third of the difference between the base period maximum stock ratio and the current stock ratio, and when drawing down, one-half the difference between base period minimum stock ratio and the current stock ratio. A faster rate is used for drawing down than for building because stocks are generally drawn down more rapidly than they are rebuilt. The one-third rate used for stock building implies a 3-year stock building period.

3. The procedures assume the reasonableness of working with minimum, maximum, and mean ending stock ratios observed during the base period, given the lack of consistent data on appropriate stock targets and minimum acceptable stock levels. Moreover, government stock targets, where available, may not be consistent with either historically achieved stock levels or existing storage facilities. The use of adjustments toward, rather than to, the base-period levels diminishes the effect of errors caused by atypical base period observations.

4. The magnitude of year-to-year stock adjustments (SAQ, SAV) depends on both the calculated change in the ending stock ratio in t+1 and the difference between actual total nonfeed use in t and status quo-based nonfeed use (SQNFU) in t+1. In some cases, abrupt changes in actual and calculated nonfeed use between t and t+1 may distort the intended direction of the stock adjustment. (For example, even if the situation calls for an increase in the ending stock ratio (ESR), stocks could decline from t to t+1 if the status quo estimate of nonfeed use (SQNFU) for t+1 was sharply below actual use in t.) These situations are described in the country narratives.

5. The stock adjustment estimates (SAQ, SAV) can be applied to the consumption estimates for cereals to obtain an overall estimate of import requirements ($IRTQ_{ce}$, $IRTV_{ce}$) and additional food needs ($AFNTQ_{ce}$, $AFNTV_{ce}$) for cereals in the following way:

   a. If $IRCQ_{ce}$ and $IRCV_{ce}$ are negative (implying a surplus of cereals for consumption purposes that can be applied to stock adjustments):

$$IRTQ_{ce} = IRCQ_{ce} + SAQ;$$

$$IRTV_{ce} = IRCV_{ce} + SAV;$$

$$AFNTQ_{ce} = AFNCQ_{ce} + SAQ$$

   subject to

$$IRTQ_{ce} > 0;$$

$$AFNTV_{ce} = AFNCV_{ce} + SAV,$$

   subject to

$$IRTV_{ce} > 0.$$

If import requirements remain negative after adding the stock adjustment, additional food needs are not affected. This situation implies a surplus of cereals above what is needed to support consumption and stock adjustment, but a surplus that cannot be exported for foreign exchange or applied against deficits in other non-substitutable food categories.

   b. If $IRCQ_{ce}$ and $IRCV_{ce}$ are positive (implying a deficit in cereals and no surplus of cereals that can be applied to stock adjustments):

$$IRTQ_{ce} = IRCQ_{ce} + SAQ;$$

$$IRTV_{ce} = IRCV_{ce} + SAV;$$

$$AFNTQ_{ce} = AFNCQ_{ce} + SAQ; \text{ and}$$

$$AFNTV_{ce} = AFNCV_{ce} + SAV.$$

Target Stocks

The adjusted stock levels (ASL's) computed by the stocks-to-consumption ratio method are based on historical relationships, not projected stock holdings. When it is known that governments have stocks objectives, or it is reasonable to surmise that to be the case, the Target Stocks method of computing ending stock levels may be invoked. The resulting computations of food needs, unlike the ratio method, reflect the influence of held stocks on projected food aid needs. The change required in the food needs analysis from invoking the target stocks adjustment is just in the computation of the ASLs. The stock adjustment is then calculated in the same manner as for the ratios method. The procedure for status quo described here is identical for nutrition-based needs, except for the substitution of IRCQN for IRCQS. The following three additional variables are introduced:

TARGET the proposed closing stock level for year t

MIN the minimum ending stock quantity in the eight year base period

MID (TARGET - MIN)/2

Using these and previously-named variables, the target adjusted stock level (ASL) for year t is calculated in the following way:

If $TPCE_t$ > trend and TCEES < TARGET:

ASL_t = TCEES + (TARGET - TCEES)/3

If $TPCE_t$ > trend and TCEES >= TARGET and TCEES - TARGET >= $IRCQS_t$

ASL_t = TCEES - $IRCQS_t$

If $TPCE_t$ > trend and TCEES >= TARGET and TCEES - TARGET < $IRCQS_t$

ASL_t = TARGET

If $TPCE_t$ < trend and TCEES < TARGET and TCEES < MID

ASL_t = TCEES + (TARGET - TCEES)/3

If $TPCE_t$ < trend and TCEES < TARGET and TCEES > MID

ASL_t = TCEES - (TCEES - MIN)/2

IF $TPCE_t$ < trend and TCEES > TARGET and (TCEES - TARGET) + (TARGET - MIN)/2 >= $IRCQS_t$

ASL_t = TCEES - IRCQS

IF $TPCE_t$ < trend and TCEES > TARGET and (TCEES - TARGET) + (TARGET - MIN)/2 < $IRCQS_t$

ASL_t = TCEES - (TCEES - TARGET) + (TARGET - MIN)/2

The adjusted stock level when total production of cereals equivalent is great than trend:

When production is above trend and the stock target exceeds current inventory, stocks are built toward the target. The target becomes the ASL when opening stocks exceed the target by a quantity less than import requirements, otherwise the ASL is the excess of current stocks over import requirement in the first estimated year.

The adjusted stock level when total production of cereals equivalent is less than trend:

When production is below trend and current stocks are below the target, stocks are built toward the target, with the increment adjusted in accordance with the magnitude of the gap. When current stocks are above the target, the ASL becomes the target plus the target margin over the stocks midpoint. If the resultant stocks drawdown exceeds import requirements, the ASL is computed as the excess of current stocks over import requirements in the first estimated year.

Adjusted stock levels for the second estimated year (ASL_{t+1}) are computed similarly, substituting ASL_t for TCEES.

Calculating Maximum Absorbable Food Needs

The calculation of maximum absorbable imports and additional food needs is an attempt to estimate the level of imports that could be handled if the highest historical levels of per capita total use and absolute carry-over stocks could be attained. The implicit assumption is that the food delivery systems of many of the countries involved have been fully "loaded" by past high levels of consumption. In addition, the highest level of stocks maintained over the previous 8 years is assumed, in the absence of better information, to be the largest level that can currently be maintained. The estimate is intended to provide a crude measure of the amount of food that can be physically absorbed. This level may then be used to scale back nutrition-based additional food need estimates that may be beyond the physical limits of a country's transportation, distribution, and storage capabilities. No attempt is made (here or elsewhere in the report) to assess the impact of such maximum levels on domestic prices or production incentives. These estimates are for individual countries only. No accounting is made of the impact of "loaded" ports in other countries on the capacity to make shipments to landlocked countries. This can be an especially acute problem in Southern and East Africa.

The maximum absorbable level of imports for commodity group j is:

(17) $$MAXIM_j = P * MAX\ (PCC_j) + MAX\ (ES) - PR_j,$$

where:

MAXIM = the maximum absorbable level of imports,

$MAX\ (PCC_j)$ = the maximum of per capita total use in the base period;

P = forecast population;

MAX (ES) = largest absolute level of ending stocks over the last 8years;

PR_j = forecast production of commodity group k.

The maximum level of absorbable imports is used as a constraint on the nutrition-based additional food needs, which become the smallest of (in quantity terms):

(18) $$MAXIMQ_j - CICQ_j$$

or:

(19) $$IRCQ_j + SAQ_j - CICQ_j$$

where IRCQ is nutrition-based import requirements to support consumption, and SAQ is the food security stock adjustment in the case of the cereal equivalent commodity group.

Calculating Import Unit Values

Import unit value (IUV) estimates are used in this report to convert tonnage import requirements (IRCQ) to value estimates (IRCV), and to convert estimated commercial import capacities in dollars (CICV) to tonnage terms (CICQ). Import unit values are computed for each country, year, and commodity group j as follows:

(20) $$IUV_j = (IUV_{jB}/USXUV_{jB})*FUSXUV$$

where:

IUV_{jB} = a country's average import unit value for commodity j during base period B (1985-87 in this report). In some cases, lack of current data has necessitated the estimation of country import unit values from those of nearby countries (sources: FAO and ERS).

$USXUV_{jB}$ = the average U.S. export unit value for commodities in group j during a base period B. The average U.S. export unit values used for each commodity group in the report are as follows: cereal equivalent = wheat; vegetable oils = soybean oil, pulses = dry beans, milk = nonfat dry milk converted to fluid equivalent.

$FUSXUV_j$ = the forecast U.S. export unit value for commodities in group j for the appropriate year (source: ERS).

Estimated import unit values are, therefore, dependent on a base-period ratio between a country's import unit value and the U.S. export unit value for a particular commodity, and on the forecast U.S. export unit value of that commodity. The use of the base-period ratio is intended to compensate for differences in transportation costs to various countries from both U.S. and non-U.S. ports, depending on who the base period suppliers were, as well as quality differences between what a country normally purchases and the U.S. average quality.

Calculating Commercial Import Capacity

A country's capacity to pay for imports of food staples is calculated in two steps. The first formula measures the country's available foreign exchange and is as follows: (all values are in million US $):

(1) $$FEA = MEE - [(IR_B/MI_B * MI) - IR] - DS;$$

where:

FEA = estimated foreign exchange availability;

MEE = projected merchandise export earnings (sources: World Bank and ERS);

IR_B = international reserves during the base period (sources: IMF and World Bank);

MI_B = merchandise imports during the base period (sources: IMF and World Bank);

MI = projected merchandise imports (sources: World Bank and ERS);

IR = projected international reserves (sources: World Bank and ERS);

DS = projected debt service (sources: World Bank and ERS); and

B = the base period over which IR and MI are averaged, (in this report, 1984-87).

Simply put, this formula states that the foreign exchange available for commercial food imports depends on export earnings, less any allowance for the accumulation or draw-down of reserves and debt service payments. The allowance for reserves is based on the notion that during the projection period a country be permitted to maintain a ratio of reserves to imports equal to the ratio in the base period. The term within the brackets determines the allowance for the accretion of reserves.

To illustrate, take the case of Mozambique, where, for 1989:

$MEE = 121.1 + 161.5$

$IR_B = 102.57$

$MI_B = 588.78 + 258.2$

$MI = 850 + 389.8$

$IR = 181.2$

$DS = 237.86$

(2) $FEA = 282.6 - [(102.57/846.98 * 1239.8) - 181.2] - 237.86$

(3) $FEA = 282.6 - [(.1211 * 1239.8) - 181.2] - 237.86$

(4) $FEA = 282.6 - [150.1408 - 181.2] - 237.86$

(5) $FEA = 282.6 - [-31.059] - 237.86$

(6) $FEA = 75.8$

Equation (3) indicates that, from 1985 to 1988, Mozambique held reserves equal to about 12 percent of imports. After multiplication of this figure by the 1989 import projection, equation (4) shows that $150 million of reserves are needed to maintain the same reserves/imports ratio. Equation (5) shows the amount of reserves that Mozambique will accumulate--the difference between reserves needed to maintain the base-period ratio and projected reserves. Equation (6) indicates the available foreign exchange for Mozambique in 1989.

The next step in the formula determines the amount of available foreign exchange to be applied toward commercial imports of foods in a particular group of substitutable foods (cereals, roots and tubers, pulses, vegetable oils, etc.) designated by the subscript j. This step is specified as follows:

(7) $CICV_j = FEA * (CFI_j/MEE)_B$

where:

$CICV_j$ = Estimated commercial import capacity for food commodities in group j;

FEA = estimated foreign exchange available as derived from part 1 of the formula;

CFI_{jB} = commercial food imports of commodities in group j during the base period (sources: FAO and ERS);

MEE_B = merchandise export earnings during the base period (sources: IMF and World Bank); and

B = the base period over which CFI and MEE are averaged (in this report, 1984-87)

This method projects the ability of a country to purchase food imports, based on the percentage of export earnings spent on food imports during the base period.

To continue the illustration with Mozambique for the food group consisting of cereals, where:

$FEA = 75.8$

$CFI_{jB} = 8.429$

$MEE_B = 282.6$

(8) $CICV_j = 75.8 * (8.429/282.6)$

(9) $CICV_j = 75.8 * (.03)$

(10) $CICV_j = 2.26$

Equation (9) indicates that Mozambique spent roughly 3 percent of its export earnings on imports of cereals during the base period. For the purpose of additional food needs assessment, it is expected that the same percentage, or $2.26 million, of its available foreign exchange will be committed to import cereals in 1989/90.

A few shortcomings of this method should be noted. Countries that historically have spent a greater share of export earnings on food imports will be expected, for the purpose of this assessment, to spend the same share in forecast years. In contrast, countries that spend relatively little on food will be expected to continue spending that lower ratio.

Furthermore, countries whose base-period reserves-to-imports ratio is high may be permitted to accumulate reserves at a faster rate than countries with a lower ratio. Finally, because debt service projections, in many cases, are based on historical levels of actual payment in relation to export earnings and not on actual debt service obligations, forecasts of debt service may be understated.

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